



### FEATURES

- Low ESR series of robust MnO<sub>2</sub> solid electrolyte capacitors
- CV range: 0.15-1500µF / 2.5-50V
- 14 case sizes available
- Power supply applications



SnPb termination option is not RoHS compliant.

### APPLICATIONS

- General medium power DC/DC convertors

### CASE DIMENSIONS: millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W±0.20 (0.008)<br>-0.10 (0.004) | H±0.20 (0.008)<br>-0.10 (0.004) | W <sub>1</sub> ±0.20 (0.008) | A±0.30 (0.012)<br>-0.20 (0.008) | S Min.       |
|------|----------|------------|----------------|---------------------------------|---------------------------------|------------------------------|---------------------------------|--------------|
| A    | 1206     | 3216-18    | 3.20 (0.126)   | 1.60 (0.063)                    | 1.60 (0.063)                    | 1.20 (0.047)                 | 0.80 (0.031)                    | 1.10 (0.043) |
| B    | 1210     | 3528-21    | 3.50 (0.138)   | 2.80 (0.110)                    | 1.90 (0.075)                    | 2.20 (0.087)                 | 0.80 (0.031)                    | 1.40 (0.055) |
| C    | 2312     | 6032-28    | 6.00 (0.236)   | 3.20 (0.126)                    | 2.60 (0.102)                    | 2.20 (0.087)                 | 1.30 (0.051)                    | 2.90 (0.114) |
| D    | 2917     | 7343-31    | 7.30 (0.287)   | 4.30 (0.169)                    | 2.90 (0.114)                    | 2.40 (0.094)                 | 1.30 (0.051)                    | 4.40 (0.173) |
| E    | 2917     | 7343-43    | 7.30 (0.287)   | 4.30 (0.169)                    | 4.10 (0.162)                    | 2.40 (0.094)                 | 1.30 (0.051)                    | 4.40 (0.173) |
| F    | 2312     | 6032-20    | 6.00 (0.236)   | 3.20 (0.126)                    | 2.00 (0.079) max.               | 2.20 (0.087)                 | 1.30 (0.051)                    | 2.90 (0.114) |
| P    | 0805     | 2012-15    | 2.05 (0.081)   | 1.35 (0.053)                    | 1.50 (0.059) max.               | 1.00±0.10 (0.039±0.004)      | 0.50 (0.020)                    | 0.85 (0.033) |
| R    | 0805     | 2012-12    | 2.05 (0.081)   | 1.30 (0.051)                    | 1.20 (0.047) max.               | 1.00±0.10 (0.039±0.004)      | 0.50 (0.020)                    | 0.85 (0.033) |
| S    | 1206     | 3216-12    | 3.20 (0.126)   | 1.60 (0.063)                    | 1.20 (0.047) max.               | 1.20 (0.047)                 | 0.80 (0.031)                    | 1.10 (0.043) |
| T    | 1210     | 3528-12    | 3.50 (0.138)   | 2.80 (0.110)                    | 1.20 (0.047) max.               | 2.20 (0.087)                 | 0.80 (0.031)                    | 1.40 (0.055) |
| V    | 2924     | 7361-38    | 7.30 (0.287)   | 6.10 (0.240)                    | 3.55 (0.140)                    | 3.10 (0.120)                 | 1.30 (0.051)                    | 4.40 (0.173) |
| W    | 2312     | 6032-15    | 6.00 (0.236)   | 3.20 (0.126)                    | 1.50 (0.059) max.               | 2.20 (0.087)                 | 1.30 (0.051)                    | 2.90 (0.114) |
| X    | 2917     | 7343-15    | 7.30 (0.287)   | 4.30 (0.169)                    | 1.50 (0.059) max.               | 2.40 (0.094)                 | 1.30 (0.051)                    | 4.40 (0.173) |
| Y    | 2917     | 7343-20    | 7.30 (0.287)   | 4.30 (0.169)                    | 2.00 (0.079) max.               | 2.40 (0.094)                 | 1.30 (0.051)                    | 4.40 (0.173) |

W1 dimension applies to the termination width for A dimensional area only.

### MARKING

A, B, C, D, E, F, S, T, V, W, X, Y CASE



### P, R CASE



### HOW TO ORDER

| TPS  | C                            | 107                                                                                                                                    | M                                 | 010                                                                                                                                                      | R                                                                                                                                                                                                                                           | 0100      | —                                                                                                        |
|------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------|
| Type | Case Size<br>See table above | Capacitance Code<br>pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow) | Tolerance<br>K = ±10%<br>M = ±20% | Rated DC Voltage<br>002 = 2.5Vdc<br>004 = 4Vdc<br>006 = 6.3Vdc<br>010 = 10Vdc<br>016 = 16Vdc<br>020 = 20Vdc<br>025 = 25Vdc<br>035 = 35Vdc<br>050 = 50Vdc | Packaging<br>R = Pure Tin 7" Reel<br>S = Pure Tin 13" Reel<br>A = Gold Plating 7" Reel<br>B = Gold Plating 13" Reel<br>H = Tin Lead 7" Reel<br>(Contact Manufacturer)<br>K = Tin Lead 13" Reel<br>(Contact Manufacturer)<br>H, K = Non RoHS | ESR in mΩ | Additional characters may be added for special requirements<br>V = Dry pack Option (selected codes only) |

### TECHNICAL SPECIFICATIONS

|                                    |           |                                                                                              |     |     |    |    |    |    |    |    |  |
|------------------------------------|-----------|----------------------------------------------------------------------------------------------|-----|-----|----|----|----|----|----|----|--|
| Technical Data:                    |           | All technical data relate to an ambient temperature of +25°C                                 |     |     |    |    |    |    |    |    |  |
| Capacitance Range:                 |           | 0.15 µF to 1500 µF                                                                           |     |     |    |    |    |    |    |    |  |
| Capacitance Tolerance:             |           | ±10%; ±20%                                                                                   |     |     |    |    |    |    |    |    |  |
| Rated Voltage (V <sub>R</sub> )    | ≤ +85°C:  | 2.5                                                                                          | 4   | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |  |
| Category Voltage (V <sub>C</sub> ) | ≤ +125°C: | 1.7                                                                                          | 2.7 | 4   | 7  | 10 | 13 | 17 | 23 | 33 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:  | 3.3                                                                                          | 5.2 | 8   | 13 | 20 | 26 | 32 | 46 | 65 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +125°C: | 2.2                                                                                          | 3.4 | 5   | 8  | 13 | 16 | 20 | 28 | 40 |  |
| Temperature Range:                 |           | -55°C to +125°C                                                                              |     |     |    |    |    |    |    |    |  |
| Environmental Classification:      |           | 55/125/56 (IEC 68-2)                                                                         |     |     |    |    |    |    |    |    |  |
| Reliability:                       |           | 1% per 1000 hours at 85°C, V <sub>R</sub> with 0.1Ω/V series impedance, 60% confidence level |     |     |    |    |    |    |    |    |  |
| Termination Finished:              |           | Sn Plating (standard), Gold and SnPb Plating upon request                                    |     |     |    |    |    |    |    |    |  |
|                                    |           | For AEC-Q200 availability, please contact AVX                                                |     |     |    |    |    |    |    |    |  |

### CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) to 85°C |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      |                                                              |                                                |                                  |
|-------------|------|--------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------|----------------------------------|
| µF          | Code | 2.5V (e)                                   | 4V (G)                                     | 6.3V (J)                                                                   | 10V (A)                                                                                                                   | 16V (C)                                                                                       | 20V (D)                                              | 25V (E)                                                      | 35V (V)                                        | 50V (T)                          |
| 0.15        | 154  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      |                                                              |                                                | A(9000)                          |
| 0.22        | 224  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      |                                                              | A(6000)                                        | A(7000)                          |
| 0.33        | 334  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      |                                                              | A(6000)                                        | A(7000)                          |
| 0.47        | 474  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      | A(7000)                                                      | A(6000)<br>B(4000)                             | A(6500), B(6000)<br>C(2300)      |
| 0.68        | 684  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               |                                                      | A(6000)                                                      | A(6000)                                        | B(4000)                          |
| 1.0         | 105  |                                            |                                            |                                                                            | R(9000)                                                                                                                   | A(6200)                                                                                       | A(3000), R(6000)<br>S(6000), T(2000)                 | A(4000)<br>R(2500,4000)                                      | A(3000)<br>B(2000)                             | B(3000)<br>C(2500)               |
| 1.5         | 155  |                                            |                                            |                                                                            |                                                                                                                           |                                                                                               | A(3000)                                              | A(3000)<br>B(1800)                                           | A(3000)<br>B(2500)                             | C(1500,2000)                     |
| 2.2         | 225  |                                            |                                            | R(7000)                                                                    | A(1800)                                                                                                                   | A(1800,3500)<br>T(2000)                                                                       | A(3000), B(1700)                                     | A(2500)<br>B(900,1200,2500)                                  | A(1500), B(750,<br>1500,2000), C(1000)         | C(1500)<br>D(1200)               |
| 3.3         | 335  |                                            |                                            | A(2100)                                                                    | T(1500)                                                                                                                   | A(3500), B(2500)                                                                              | A(2500)<br>B(1300)                                   | A(1000,1500)<br>B(750,1500,2000)                             | B(1000)<br>C(700)                              | C(1000)<br>D(800)                |
| 4.7         | 475  |                                            |                                            | S(4000)                                                                    | A(1400), B(1400)<br>R(3000,5000)                                                                                          | A(2000)<br>B(800,1500)                                                                        | A(1800)<br>B(750,1000)                               | B(700,900,1500)<br>C(700)                                    | B(700,1500)<br>C(600), D(700)                  | C(800)<br>D(250,300,<br>500,700) |
| 6.8         | 685  |                                            |                                            | A(1800)                                                                    | A(1800), B(1300)<br>T(1800)                                                                                               | A(1500)<br>B(600,1200)                                                                        | A(1000)<br>B(600,1000)<br>C(700)                     | B(700)<br>C(500,600,700)                                     | C(350)<br>D(150,400,500)                       | D(200, 300,<br>500,600)          |
| 10          | 106  |                                            | R(3000)                                    | A(1500), B(1500)<br>R(1000,1500,3000)<br>T(1000)                           | A(900,1800), B(1000)<br>P(2000) <sup>M</sup> , S(900)<br>T(1000,2000)                                                     | A(1000), B(500,800)<br>C(500), T(800,1000)<br>W(500,600)                                      | B(500,1000)<br>C(500,700)<br>W(250, 500)             | B(1800)<br>C(300,500)<br>D(500)                              | C(600)<br>D(125,300)<br>E(200), Y(250)         | D(500)<br>E(250,300,<br>400,500) |
| 15          | 156  |                                            |                                            | A(700,1500)                                                                | A(1000)<br>B(450,600), C(700)<br>T(1200)                                                                                  | B(500,800)<br>C(300,700)                                                                      | B(500)<br>C(400,450)                                 | C(220,300)<br>D(100,300)                                     | C(350,450)<br>D(100,300)<br>Y(250)             | E(250)<br>V(250)                 |
| 22          | 226  |                                            |                                            | A(500,900)<br>B(375,600)<br>C(500), S(900)                                 | A(900)<br>B(400,500,700)<br>C(300), T(800)                                                                                | B(400,600)<br>C(150,250,300,375)<br>D(700), W(500)                                            | B(400,600)<br>C(100,150,400)<br>D(200,300)           | C(275,400)<br>D(100,200,300)                                 | D(125,200,300,400)<br>E(125,200,300)<br>Y(200) |                                  |
| 33          | 336  |                                            |                                            | A(600)<br>B(250,350,450,600)<br>T(800)                                     | A(700)<br>B(250,425,500,650)<br>C(150,375,500)<br>W(350)                                                                  | B(350,500)<br>C(100,150,225,300)<br>D(200), W(140,175,<br>250,400,500)<br>Y(300,400)          | C(300)<br>D(100,200)                                 | C(400)<br>D(100,200,300)<br>E(100,175,<br>200,300)<br>Y(200) | D(200,300)<br>E(100,250,300)<br>V(200)         |                                  |
| 47          | 476  |                                            | A(500)                                     | A(800)<br>B(250,350,500)<br>C(300), T(1200)                                | B(250,350,500,650)<br>C(200,350)<br>D(100,300)<br>W(125,150,250)                                                          | C(110,350)<br>D(80,100,150,200)<br>W(200)<br>X(180), Y(250)                                   | D(75,100,200)<br>E(70,125,150,<br>200,250)<br>X(200) | D(125,150,250)<br>E(80,100,125)<br>(Y250)                    | E(200,250)<br>V(150,200)                       |                                  |
| 68          | 686  |                                            |                                            | B(250,350,500)<br>C(150,200)<br>W(110,125,250)                             | B(600)<br>C(80,100,200,300)<br>D(100,150), W(100,150)<br>Y(100,200)                                                       | C(125,200)<br>D(70,100,150)<br>F(200), X(150)<br>Y(150,200,250)                               | D(70,150,<br>200,300)<br>E(125,150,200)<br>Y(200)    | D(300)<br>E(125,200)<br>V(80,95,150,200)                     | V(150,200)                                     |                                  |
| 100         | 107  | B(200)                                     | B(200,250,<br>350,500)<br>W(100)           | B(250,400)<br>C(75,150), D(300)<br>W(100,150)<br>Y(100)                    | B(400) <sup>M</sup><br>C(75,100,150,200)<br>D(50,65,80,100,125,<br>150), E(125) W(150)<br>X(85,150,200)<br>Y(100,150,200) | C(200)<br>D(60,100,125,150)<br>E(55,100,125,150)<br>F(150,200) <sup>M</sup><br>Y(100,150,200) | D(85,100,150)<br>E(100,150,200)<br>V(60,85,100,200)  | E(150) <sup>M</sup> , V(100)                                 |                                                |                                  |
| 150         | 157  | B(150)                                     | B(250)<br>C(70,80)                         | C(50,90,150,200,250)<br>D(50,125),<br>Y(40,50)                             | C(150), D(50,85,100),<br>E(100), F(200), X(100) <sup>M</sup><br>Y(100,150,200)                                            | D(60,85,100,125,150)<br>E(100), V(45,75)<br>Y(200) <sup>M</sup>                               | V(80)                                                | V(150) <sup>M</sup>                                          |                                                |                                  |
| 220         | 227  | B(150,<br>200,600)<br>D(45)                | D(40,50,100)<br>Y(40,50,75)                | C(70,100,125,250)<br>D(50,100,125)<br>E(100), F(200)<br>Y(100,150)         | D(40,50,100,150)<br>E(50,60,70,100,<br>125,150)<br>Y(100,150,200)                                                         | E(100,150)<br>V(50,75,100,150)                                                                |                                                      |                                                              |                                                |                                  |
| 330         | 337  | Y(40)                                      | C(100)<br>D(35,45,100)<br>F(200)<br>X(100) | C(80,100)<br>D(45,50,70,100)<br>E(50,100,125,150)<br>V(100), Y(75,100,150) | D(50,65,100,150)<br>E(40,50,60,100)<br>V(40,60,100)                                                                       | E(200) <sup>M</sup>                                                                           |                                                      |                                                              |                                                |                                  |
| 470         | 477  | D(35)<br>F(200)<br>Y(100)                  | D(45,100)<br>E(35,45,100)                  | D(45,60,100,200)<br>E(45,50,60,100,200)<br>V(40,55,100), Y(150)            | E(45,50,60,100,200)<br>V(40,60,100)                                                                                       |                                                                                               |                                                      |                                                              |                                                |                                  |
| 680         | 687  | D(35,50)<br>E(35,50)<br>Y(100)             | D(45,60,100)<br>E(40,60,100)               | E(45,60,100)<br>V(35,40,50)                                                |                                                                                                                           |                                                                                               |                                                      |                                                              |                                                |                                  |
| 1000        | 108  | E(30,40)<br>Y(100) <sup>M</sup>            | E(40,60)<br>V(25,35,40,50)                 | E(100) <sup>M</sup> , V(40,50) <sup>M</sup>                                |                                                                                                                           |                                                                                               |                                                      |                                                              |                                                |                                  |
| 1500        | 158  | D(100)<br>E(50)<br>V(30,40) <sup>M</sup>   | E(50,75)<br>V(50,75) <sup>M</sup>          |                                                                            |                                                                                                                           |                                                                                               |                                                      |                                                              |                                                |                                  |

Not recommended for new designs, higher voltage or smaller case size substitution are offered.

Released codes <sup>M</sup> tolerance only

Engineering samples - please contact manufacturer

\*Codes under development - subject to change

ESR limits quoted in brackets (milliohms)

NOTE: Voltage ratings are minimum values.

AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(µA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----------------|------------------------|-------|-------|
|                  |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 | 25°C                   | 85°C  | 125°C |
| 2.5 Volt @ 85°C  |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 |                        |       |       |
| TPSB107*002#0200 | B            | 100                 | 2.5                     | 85                           | 1.7                        | 125                             | 2.5                 | 8               | 200                          | 1               | 0.652                  | 0.587 | 0.261 |
| TPSB157*002#0150 | B            | 150                 | 2.5                     | 85                           | 1.7                        | 125                             | 3                   | 10              | 150                          | 1               | 0.753                  | 0.677 | 0.301 |
| TPSB227*002#0150 | B            | 220                 | 2.5                     | 85                           | 1.7                        | 125                             | 4.4                 | 16              | 150                          | 1               | 0.753                  | 0.677 | 0.301 |
| TPSB227*002#0200 | B            | 220                 | 2.5                     | 85                           | 1.7                        | 125                             | 4.4                 | 16              | 200                          | 1               | 0.652                  | 0.587 | 0.261 |
| TPSB227*002#0600 | B            | 220                 | 2.5                     | 85                           | 1.7                        | 125                             | 4.4                 | 16              | 600                          | 1               | 0.376                  | 0.339 | 0.151 |
| TPSD227*002#0045 | D            | 220                 | 2.5                     | 85                           | 1.7                        | 125                             | 5.5                 | 8               | 45                           | 1               | 1.826                  | 1.643 | 0.730 |
| TPSY337*002#0040 | Y            | 330                 | 2.5                     | 85                           | 1.7                        | 125                             | 8.2                 | 8               | 40                           | 1 <sup>1)</sup> | 1.768                  | 1.591 | 0.707 |
| TPSD477*002#0035 | D            | 470                 | 2.5                     | 85                           | 1.7                        | 125                             | 11.6                | 8               | 35                           | 1               | 2.070                  | 1.863 | 0.828 |
| TPSF477*002#0200 | F            | 470                 | 2.5                     | 85                           | 1.7                        | 125                             | 11.8                | 12              | 200                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSY477*002#0100 | Y            | 470                 | 2.5                     | 85                           | 1.7                        | 125                             | 11                  | 12              | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSD687*002#0035 | D            | 680                 | 2.5                     | 85                           | 1.7                        | 125                             | 17                  | 16              | 35                           | 1               | 2.070                  | 1.863 | 0.828 |
| TPSD687*002#0050 | D            | 680                 | 2.5                     | 85                           | 1.7                        | 125                             | 17                  | 16              | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSE687*002#0035 | E            | 680                 | 2.5                     | 85                           | 1.7                        | 125                             | 17                  | 10              | 35                           | 1 <sup>1)</sup> | 2.171                  | 1.954 | 0.868 |
| TPSE687*002#0050 | E            | 680                 | 2.5                     | 85                           | 1.7                        | 125                             | 17                  | 10              | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSY687*002#0100 | Y            | 680                 | 2.5                     | 85                           | 1.7                        | 125                             | 17                  | 12              | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSE108*002#0030 | E            | 1000                | 2.5                     | 85                           | 1.7                        | 125                             | 25                  | 14              | 30                           | 1 <sup>1)</sup> | 2.345                  | 2.111 | 0.938 |
| TPSE108*002#0040 | E            | 1000                | 2.5                     | 85                           | 1.7                        | 125                             | 25                  | 14              | 40                           | 1 <sup>1)</sup> | 2.031                  | 1.828 | 0.812 |
| TPSY108M002#0100 | Y            | 1000                | 2.5                     | 85                           | 1.7                        | 125                             | 25                  | 30              | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSD158*002#0100 | D            | 1500                | 2.5                     | 85                           | 1.7                        | 125                             | 37.5                | 60              | 100                          | 1               | 1.125                  | 1.102 | 0.490 |
| TPSE158*002#0050 | E            | 1500                | 2.5                     | 85                           | 1.7                        | 125                             | 37.5                | 20              | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSV158M002#0030 | V            | 1500                | 2.5                     | 85                           | 1.7                        | 125                             | 30                  | 20              | 30                           | 1 <sup>1)</sup> | 2.887                  | 2.598 | 1.155 |
| TPSV158M002#0040 | V            | 1500                | 2.5                     | 85                           | 1.7                        | 125                             | 30                  | 20              | 40                           | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| 4 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 |                        |       |       |
| TPSR106*004#3000 | R            | 10                  | 4                       | 85                           | 2.7                        | 125                             | 0.5                 | 6               | 3000                         | 1               | 0.135                  | 0.122 | 0.054 |
| TPSA476*004#0500 | A            | 47                  | 4                       | 85                           | 2.7                        | 125                             | 1.9                 | 8               | 500                          | 1               | 0.387                  | 0.349 | 0.155 |
| TPSB107*004#0200 | B            | 100                 | 4                       | 85                           | 2.7                        | 125                             | 4                   | 8               | 200                          | 1               | 0.652                  | 0.587 | 0.261 |
| TPSB107*004#0250 | B            | 100                 | 4                       | 85                           | 2.7                        | 125                             | 4                   | 8               | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB107*004#0350 | B            | 100                 | 4                       | 85                           | 2.7                        | 125                             | 4                   | 8               | 350                          | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB107*004#0500 | B            | 100                 | 4                       | 85                           | 2.7                        | 125                             | 4                   | 8               | 500                          | 1               | 0.412                  | 0.371 | 0.165 |
| TPSW107*004#0100 | W            | 100                 | 4                       | 85                           | 2.7                        | 125                             | 4                   | 6               | 100                          | 1               | 0.949                  | 0.854 | 0.379 |
| TPSB157*004#0250 | B            | 150                 | 4                       | 85                           | 2.7                        | 125                             | 6                   | 10              | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSC157*004#0070 | C            | 150                 | 4                       | 85                           | 2.7                        | 125                             | 6                   | 6               | 70                           | 1               | 1.254                  | 1.128 | 0.501 |
| TPSC157*004#0080 | C            | 150                 | 4                       | 85                           | 2.7                        | 125                             | 6                   | 6               | 80                           | 1               | 1.173                  | 1.055 | 0.469 |
| TPSD227*004#0040 | D            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 40                           | 1               | 1.936                  | 1.743 | 0.775 |
| TPSD227*004#0050 | D            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD227*004#0100 | D            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSY227*004#0040 | Y            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 40                           | 1 <sup>1)</sup> | 1.768                  | 1.591 | 0.707 |
| TPSY227*004#0050 | Y            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 50                           | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSY227*004#0075 | Y            | 220                 | 4                       | 85                           | 2.7                        | 125                             | 8.8                 | 8               | 75                           | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSC337*004#0100 | C            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 8               | 100                          | 1               | 1.049                  | 0.944 | 0.420 |
| TPSD337*004#0035 | D            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 8               | 35                           | 1               | 2.070                  | 1.863 | 0.828 |
| TPSD337*004#0045 | D            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 8               | 45                           | 1               | 1.826                  | 1.643 | 0.730 |
| TPSD337*004#0100 | D            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSF337*004#0200 | F            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 10              | 200                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSX337*004#0100 | X            | 330                 | 4                       | 85                           | 2.7                        | 125                             | 13.2                | 8               | 100                          | 1 <sup>1)</sup> | 1.000                  | 0.900 | 0.400 |
| TPSD477*004#0045 | D            | 470                 | 4                       | 85                           | 2.7                        | 125                             | 18.8                | 12              | 45                           | 1               | 1.826                  | 1.643 | 0.730 |
| TPSD477*004#0100 | D            | 470                 | 4                       | 85                           | 2.7                        | 125                             | 18.8                | 12              | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSE477*004#0035 | E            | 470                 | 4                       | 85                           | 2.7                        | 125                             | 18.8                | 10              | 35                           | 1 <sup>1)</sup> | 2.171                  | 1.954 | 0.868 |
| TPSE477*004#0045 | E            | 470                 | 4                       | 85                           | 2.7                        | 125                             | 18.8                | 10              | 45                           | 1 <sup>1)</sup> | 1.915                  | 1.723 | 0.766 |
| TPSE477*004#0100 | E            | 470                 | 4                       | 85                           | 2.7                        | 125                             | 18.8                | 10              | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSD687*004#0045 | D            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 14              | 45                           | 1               | 1.826                  | 1.643 | 0.730 |
| TPSD687*004#0060 | D            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 14              | 60                           | 1               | 1.581                  | 1.423 | 0.632 |
| TPSD687*004#0100 | D            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 14              | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSE687*004#0040 | E            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 10              | 40                           | 1 <sup>1)</sup> | 2.031                  | 1.828 | 0.812 |
| TPSE687*004#0060 | E            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 10              | 60                           | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE687*004#0100 | E            | 680                 | 4                       | 85                           | 2.7                        | 125                             | 27.2                | 10              | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE108*004#0040 | E            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 14              | 40                           | 1 <sup>1)</sup> | 2.031                  | 1.828 | 0.812 |
| TPSE108*004#0060 | E            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 14              | 60                           | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSV108*004#0025 | V            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 16              | 25                           | 1 <sup>1)</sup> | 3.162                  | 2.846 | 1.265 |
| TPSV108*004#0035 | V            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 16              | 35                           | 1 <sup>1)</sup> | 2.673                  | 2.405 | 1.069 |
| TPSV108*004#0040 | V            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 16              | 40                           | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV108*004#0050 | V            | 1000                | 4                       | 85                           | 2.7                        | 125                             | 40                  | 16              | 50                           | 1 <sup>1)</sup> | 2.236                  | 2.012 | 0.894 |
| TPSE158*004#0050 | E            | 1500                | 4                       | 85                           | 2.7                        | 125                             | 60                  | 30              | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSE158*004#0075 | E            | 1500                | 4                       | 85                           | 2.7                        | 125                             | 60                  | 30              | 75                           | 1 <sup>1)</sup> | 1.483                  | 1.335 | 0.593 |
| TPSV158M004#0050 | V            | 1500                | 4                       | 85                           | 2.7                        | 125                             | 60                  | 30              | 50                           | 1 <sup>1)</sup> | 2.236                  | 2.012 | 0.894 |
| TPSV158M004#0075 | V            | 1500                | 4                       | 85                           | 2.7                        | 125                             | 60                  | 30              | 75                           | 1 <sup>1)</sup> | 1.826                  | 1.643 | 0.730 |
| 6.3 Volt @ 85°C  |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 |                        |       |       |
| TPSR225*006#7000 | R            | 2.2                 | 6.3                     | 85                           | 4                          | 125                             | 0.5                 | 6               | 7000                         | 1               | 0.089                  | 0.080 | 0.035 |
| TPSA335*006#2100 | A            | 3.3                 | 6.3                     | 85                           | 4                          | 125                             | 0.5                 | 6               | 2100                         | 1               | 0.189                  | 0.170 | 0.076 |
| TPSS475*006#4000 | S            | 4.7                 | 6.3                     | 85                           | 4                          | 125                             | 0.5                 | 6               | 4000                         | 1               | 0.127                  | 0.115 | 0.051 |

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----------------|------------------------|-------|-------|
|                  |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 | 25°C                   | 85°C  | 125°C |
| TPSA685*006#1800 | A            | 6.8                 | 6.3                     | 85                           | 4                          | 125                             | 0.5                 | 6               | 1800                         | 1               | 0.204                  | 0.184 | 0.082 |
| TPSA106*006#1500 | A            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 6               | 1500                         | 1               | 0.224                  | 0.201 | 0.089 |
| TPSB106*006#1500 | B            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 6               | 1500                         | 1               | 0.238                  | 0.214 | 0.095 |
| TPSR106*006#1000 | R            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 8               | 1000                         | 1               | 0.235                  | 0.211 | 0.094 |
| TPSR106*006#1500 | R            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 8               | 1500                         | 1               | 0.191                  | 0.172 | 0.077 |
| TPSR106*006#3000 | R            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 8               | 3000                         | 1               | 0.135                  | 0.122 | 0.054 |
| TPST106*006#1000 | T            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 6               | 1000                         | 1               | 0.283                  | 0.255 | 0.113 |
| TPSA156*006#0700 | A            | 15                  | 6.3                     | 85                           | 4                          | 125                             | 0.9                 | 6               | 700                          | 1               | 0.327                  | 0.295 | 0.131 |
| TPSA156*006#1500 | A            | 15                  | 6.3                     | 85                           | 4                          | 125                             | 0.9                 | 6               | 1500                         | 1               | 0.224                  | 0.201 | 0.089 |
| TPSA226*006#0500 | A            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 500                          | 1               | 0.387                  | 0.349 | 0.155 |
| TPSA226*006#0900 | A            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 900                          | 1               | 0.289                  | 0.260 | 0.115 |
| TPSB226*006#0375 | B            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 375                          | 1               | 0.476                  | 0.428 | 0.190 |
| TPSB226*006#0600 | B            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 600                          | 1               | 0.376                  | 0.339 | 0.151 |
| TPSC226*006#0500 | C            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 500                          | 1               | 0.469                  | 0.422 | 0.188 |
| TPSS226*006#0900 | S            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.3                 | 10              | 900                          | 1               | 0.269                  | 0.242 | 0.107 |
| TPSA336*006#0600 | A            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 8               | 600                          | 1               | 0.354                  | 0.318 | 0.141 |
| TPSB336*006#0250 | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB336*006#0350 | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 350                          | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB336*006#0450 | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 450                          | 1               | 0.435                  | 0.391 | 0.174 |
| TPSB336*006#0600 | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 600                          | 1               | 0.376                  | 0.339 | 0.151 |
| TPST336*006#0800 | T            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 10              | 800                          | 1               | 0.316                  | 0.285 | 0.126 |
| TPSA476*006#0800 | A            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 2.8                 | 10              | 800                          | 1               | 0.306                  | 0.276 | 0.122 |
| TPSB476*006#0250 | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB476*006#0350 | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 350                          | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB476*006#0500 | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 500                          | 1               | 0.412                  | 0.371 | 0.165 |
| TPSC476*006#0300 | C            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 300                          | 1               | 0.606                  | 0.545 | 0.242 |
| TPST476*006#1200 | T            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 2.8                 | 10              | 1200                         | 1               | 0.258                  | 0.232 | 0.103 |
| TPSB686*006#0250 | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB686*006#0350 | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 350                          | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB686*006#0500 | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 500                          | 1               | 0.412                  | 0.371 | 0.165 |
| TPSC686*006#0150 | C            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 150                          | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC686*006#0200 | C            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 200                          | 1               | 0.742                  | 0.667 | 0.297 |
| TPSW686*006#0110 | W            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 110                          | 1               | 0.905                  | 0.814 | 0.362 |
| TPSW686*006#0125 | W            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 125                          | 1               | 0.849                  | 0.764 | 0.339 |
| TPSW686*006#0250 | W            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 250                          | 1               | 0.600                  | 0.540 | 0.240 |
| TPSB107*006#0250 | B            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 10              | 250                          | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB107*006#0400 | B            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 10              | 400                          | 1               | 0.461                  | 0.415 | 0.184 |
| TPSC107*006#0075 | C            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 75                           | 1               | 1.211                  | 1.090 | 0.484 |
| TPSC107*006#0150 | C            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 150                          | 1               | 0.856                  | 0.771 | 0.343 |
| TPSD107*006#0300 | D            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 300                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSW107*006#0100 | W            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 100                          | 1               | 0.949                  | 0.854 | 0.379 |
| TPSW107*006#0150 | W            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 150                          | 1               | 0.775                  | 0.697 | 0.310 |
| TPSY107*006#0100 | Y            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSC157*006#0050 | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 50                           | 1               | 1.483                  | 1.335 | 0.593 |
| TPSC157*006#0090 | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 90                           | 1               | 1.106                  | 0.995 | 0.442 |
| TPSC157*006#0150 | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 150                          | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC157*006#0200 | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 200                          | 1               | 0.742                  | 0.667 | 0.297 |
| TPSC157*006#0250 | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 250                          | 1               | 0.663                  | 0.597 | 0.265 |
| TPSD157*006#0050 | D            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD157*006#0125 | D            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 125                          | 1               | 1.095                  | 0.986 | 0.438 |
| TPSY157*006#0040 | Y            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 40                           | 1 <sup>1)</sup> | 1.768                  | 1.591 | 0.707 |
| TPSY157*006#0050 | Y            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 50                           | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSC227*006#0070 | C            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 70                           | 1               | 1.254                  | 1.128 | 0.501 |
| TPSC227*006#0100 | C            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 100                          | 1               | 1.049                  | 0.944 | 0.420 |
| TPSC227*006#0125 | C            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 125                          | 1               | 0.938                  | 0.844 | 0.375 |
| TPSC227*006#0250 | C            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 250                          | 1               | 0.663                  | 0.597 | 0.265 |
| TPSD227*006#0050 | D            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD227*006#0100 | D            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD227*006#0125 | D            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 125                          | 1               | 1.095                  | 0.986 | 0.438 |
| TPSE227*006#0100 | E            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSF227*006#0200 | F            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.2                | 10              | 200                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSY227*006#0100 | Y            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY227*006#0150 | Y            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 150                          | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSC337*006#0080 | C            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 19.8                | 12              | 80                           | 1               | 1.173                  | 1.055 | 0.469 |
| TPSC337*006#0100 | C            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 19.8                | 12              | 100                          | 1               | 1.049                  | 0.944 | 0.420 |
| TPSD337*006#0045 | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 45                           | 1               | 1.826                  | 1.643 | 0.730 |
| TPSD337*006#0050 | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD337*006#0070 | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 70                           | 1               | 1.464                  | 1.317 | 0.586 |
| TPSD337*006#0100 | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSE337*006#0050 | E            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSE337*006#0100 | E            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.     | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (µA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                  |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSE337*006#0125 | E         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 8         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE337*006#0150 | E         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 8         | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSV337*006#0100 | V         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 8         | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSY337*006#0075 | Y         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 12        | 75                     | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSY337*006#0100 | Y         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 12        | 100                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY337*006#0150 | Y         | 330              | 6.3               | 85                     | 4                    | 125                       | 20.8          | 12        | 150                    | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSD477*006#0045 | D         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 12        | 45                     | 1               | 1.826                  | 1.643 | 0.730 |
| TPSD477*006#0060 | D         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 12        | 60                     | 1               | 1.581                  | 1.423 | 0.632 |
| TPSD477*006#0100 | D         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 12        | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD477*006#0200 | D         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 12        | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSE477*006#0045 | E         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 45                     | 1 <sup>1)</sup> | 1.915                  | 1.723 | 0.766 |
| TPSE477*006#0050 | E         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 50                     | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSE477*006#0060 | E         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 60                     | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE477*006#0100 | E         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE477*006#0200 | E         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSV477*006#0040 | V         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 40                     | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV477*006#0055 | V         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 55                     | 1 <sup>1)</sup> | 2.132                  | 1.919 | 0.853 |
| TPSV477*006#0100 | V         | 470              | 6.3               | 85                     | 4                    | 125                       | 28            | 10        | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSY477*006#0150 | Y         | 470              | 6.3               | 85                     | 4                    | 125                       | 28.2          | 20        | 150                    | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSE687*006#0045 | E         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 10        | 45                     | 1 <sup>1)</sup> | 1.915                  | 1.723 | 0.766 |
| TPSE687*006#0060 | E         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 10        | 60                     | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE687*006#0100 | E         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 10        | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSV687*006#0035 | V         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 14        | 35                     | 1 <sup>1)</sup> | 2.673                  | 2.405 | 1.069 |
| TPSV687*006#0040 | V         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 10        | 40                     | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV687*006#0050 | V         | 680              | 6.3               | 85                     | 4                    | 125                       | 42.8          | 10        | 50                     | 1 <sup>1)</sup> | 2.236                  | 2.012 | 0.894 |
| TPSE108M006#0100 | E         | 1000             | 6.3               | 85                     | 4                    | 125                       | 60            | 20        | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSV108M006#0040 | V         | 1000             | 6.3               | 85                     | 4                    | 125                       | 60            | 16        | 40                     | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV108M006#0050 | V         | 1000             | 6.3               | 85                     | 4                    | 125                       | 60            | 16        | 50                     | 1 <sup>1)</sup> | 2.236                  | 2.012 | 0.894 |
| 10 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSR105*010#9000 | R         | 1                | 10                | 85                     | 7                    | 125                       | 0.5           | 4         | 9000                   | 1               | 0.078                  | 0.070 | 0.031 |
| TPSA225*010#1800 | A         | 2.2              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 1800                   | 1               | 0.204                  | 0.184 | 0.082 |
| TPST335*010#1500 | T         | 3.3              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 1500                   | 1               | 0.231                  | 0.208 | 0.092 |
| TPSA475*010#1400 | A         | 4.7              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 1400                   | 1               | 0.231                  | 0.208 | 0.093 |
| TPSB475*010#1400 | B         | 4.7              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 1400                   | 1               | 0.246                  | 0.222 | 0.099 |
| TPSR475*010#3000 | R         | 4.7              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 3000                   | 1               | 0.135                  | 0.122 | 0.054 |
| TPSR475*010#5000 | R         | 4.7              | 10                | 85                     | 7                    | 125                       | 0.5           | 6         | 5000                   | 1               | 0.105                  | 0.094 | 0.042 |
| TPSA685*010#1800 | A         | 6.8              | 10                | 85                     | 7                    | 125                       | 0.7           | 6         | 1800                   | 1               | 0.204                  | 0.184 | 0.082 |
| TPSB685*010#1300 | B         | 6.8              | 10                | 85                     | 7                    | 125                       | 0.7           | 6         | 1300                   | 1               | 0.256                  | 0.230 | 0.102 |
| TPST685*010#1800 | T         | 6.8              | 10                | 85                     | 7                    | 125                       | 0.7           | 6         | 1800                   | 1               | 0.211                  | 0.190 | 0.084 |
| TPSA106*010#0900 | A         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 6         | 900                    | 1               | 0.289                  | 0.260 | 0.115 |
| TPSA106*010#1800 | A         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 6         | 1800                   | 1               | 0.204                  | 0.184 | 0.082 |
| TPSB106*010#1000 | B         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 6         | 1000                   | 1               | 0.292                  | 0.262 | 0.117 |
| TPSP106M010#2000 | P         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 8         | 2000                   | 1               | 0.173                  | 0.156 | 0.069 |
| TPSS106*010#0900 | S         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 8         | 900                    | 1               | 0.269                  | 0.242 | 0.107 |
| TPST106*010#1000 | T         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 6         | 1000                   | 1               | 0.283                  | 0.255 | 0.113 |
| TPST106*010#2000 | T         | 10               | 10                | 85                     | 7                    | 125                       | 1             | 6         | 2000                   | 1               | 0.200                  | 0.180 | 0.080 |
| TPSA156*010#1000 | A         | 15               | 10                | 85                     | 7                    | 125                       | 1.5           | 6         | 1000                   | 1               | 0.274                  | 0.246 | 0.110 |
| TPSB156*010#0450 | B         | 15               | 10                | 85                     | 7                    | 125                       | 1.5           | 6         | 450                    | 1               | 0.435                  | 0.391 | 0.174 |
| TPSB156*010#0600 | B         | 15               | 10                | 85                     | 7                    | 125                       | 1.5           | 6         | 600                    | 1               | 0.376                  | 0.339 | 0.151 |
| TPSC156*010#0700 | C         | 15               | 10                | 85                     | 7                    | 125                       | 1.5           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPST156*010#1200 | T         | 15               | 10                | 85                     | 7                    | 125                       | 1.5           | 8         | 1200                   | 1               | 0.258                  | 0.232 | 0.103 |
| TPSA226*010#0900 | A         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 8         | 900                    | 1               | 0.289                  | 0.260 | 0.115 |
| TPSB226*010#0400 | B         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 6         | 400                    | 1               | 0.461                  | 0.415 | 0.184 |
| TPSB226*010#0500 | B         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB226*010#0700 | B         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 6         | 700                    | 1               | 0.348                  | 0.314 | 0.139 |
| TPSC226*010#0300 | C         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPST226*010#0800 | T         | 22               | 10                | 85                     | 7                    | 125                       | 2.2           | 8         | 800                    | 1               | 0.316                  | 0.285 | 0.126 |
| TPSA336*010#0700 | A         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 8         | 700                    | 1               | 0.327                  | 0.295 | 0.131 |
| TPSB336*010#0250 | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 250                    | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB336*010#0425 | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 425                    | 1               | 0.447                  | 0.402 | 0.179 |
| TPSB336*010#0500 | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB336*010#0650 | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 650                    | 1               | 0.362                  | 0.325 | 0.145 |
| TPSC336*010#0150 | C         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 150                    | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC336*010#0375 | C         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 375                    | 1               | 0.542                  | 0.487 | 0.217 |
| TPSC336*010#0500 | C         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 500                    | 1               | 0.469                  | 0.422 | 0.188 |
| TPSW336*010#0350 | W         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 350                    | 1               | 0.507                  | 0.456 | 0.203 |
| TPSB476*010#0250 | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 250                    | 1               | 0.583                  | 0.525 | 0.233 |
| TPSB476*010#0350 | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 350                    | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB476*010#0500 | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB476*010#0650 | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 650                    | 1               | 0.362                  | 0.325 | 0.145 |
| TPSC476*010#0200 | C         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 6         | 200                    | 1               | 0.742                  | 0.667 | 0.297 |
| TPSC476*010#0350 | C         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 6         | 350                    | 1               | 0.561                  | 0.505 | 0.224 |

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----------------|------------------------|-------|-------|
|                  |              |                     |                         |                              |                            |                                 |                     |                 |                              |                 | 25°C                   | 85°C  | 125°C |
| TPSD476*010#0100 | D            | 47                  | 10                      | 85                           | 7                          | 125                             | 4.7                 | 6               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD476*010#0300 | D            | 47                  | 10                      | 85                           | 7                          | 125                             | 4.7                 | 6               | 300                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSW476*010#0125 | W            | 47                  | 10                      | 85                           | 7                          | 125                             | 4.7                 | 6               | 125                          | 1               | 0.849                  | 0.764 | 0.339 |
| TPSW476*010#0150 | W            | 47                  | 10                      | 85                           | 7                          | 125                             | 4.7                 | 6               | 150                          | 1               | 0.775                  | 0.697 | 0.310 |
| TPSW476*010#0250 | W            | 47                  | 10                      | 85                           | 7                          | 125                             | 4.7                 | 6               | 250                          | 1               | 0.600                  | 0.540 | 0.240 |
| TPSB686*010#0600 | B            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 8               | 600                          | 1               | 0.376                  | 0.339 | 0.151 |
| TPSC686*010#0080 | C            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 80                           | 1               | 1.173                  | 1.055 | 0.469 |
| TPSC686*010#0100 | C            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 100                          | 1               | 1.049                  | 0.944 | 0.420 |
| TPSC686*010#0200 | C            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 200                          | 1               | 0.742                  | 0.667 | 0.297 |
| TPSC686*010#0300 | C            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 300                          | 1               | 0.606                  | 0.545 | 0.242 |
| TPSD686*010#0100 | D            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD686*010#0150 | D            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 150                          | 1               | 1.000                  | 0.900 | 0.400 |
| TPSY686*010#0100 | Y            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY686*010#0200 | Y            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 200                          | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSW686*010#0100 | W            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 100                          | 1               | 0.949                  | 0.854 | 0.379 |
| TPSW686*010#0150 | W            | 68                  | 10                      | 85                           | 7                          | 125                             | 6.8                 | 6               | 150                          | 1               | 0.775                  | 0.697 | 0.310 |
| TPSB107M010#0400 | B            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 400                          | 1               | 0.461                  | 0.415 | 0.184 |
| TPSC107*010#0075 | C            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 75                           | 1               | 1.211                  | 1.090 | 0.484 |
| TPSC107*010#0100 | C            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 100                          | 1               | 1.049                  | 0.944 | 0.420 |
| TPSC107*010#0150 | C            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 150                          | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC107*010#0200 | C            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 200                          | 1               | 0.742                  | 0.667 | 0.297 |
| TPSD107*010#0050 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD107*010#0065 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 65                           | 1               | 1.519                  | 1.367 | 0.608 |
| TPSD107*010#0080 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 80                           | 1               | 1.369                  | 1.232 | 0.548 |
| TPSD107*010#0100 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD107*010#0125 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 125                          | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD107*010#0150 | D            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 150                          | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE107*010#0125 | E            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 125                          | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSW107*010#0150 | W            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 150                          | 1               | 0.775                  | 0.697 | 0.310 |
| TPSX107*010#0085 | X            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 85                           | 1 <sup>1)</sup> | 1.085                  | 0.976 | 0.434 |
| TPSX107*010#0150 | X            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 150                          | 1 <sup>1)</sup> | 0.816                  | 0.735 | 0.327 |
| TPSY107*010#0200 | Y            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 8               | 200                          | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSY107*010#0100 | Y            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY107*010#0150 | Y            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 150                          | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSY107*010#0200 | Y            | 100                 | 10                      | 85                           | 7                          | 125                             | 10                  | 6               | 200                          | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSC157*010#0150 | C            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 8               | 150                          | 1               | 0.856                  | 0.771 | 0.343 |
| TPSD157*010#0050 | D            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD157*010#0085 | D            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 8               | 85                           | 1               | 1.328                  | 1.196 | 0.531 |
| TPSD157*010#0100 | D            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSE157*010#0100 | E            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 8               | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSF157*010#0200 | F            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 10              | 200                          | 1               | 0.707                  | 0.636 | 0.283 |
| TPSX157M010#0100 | X            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 6               | 100                          | 1 <sup>1)</sup> | 1.000                  | 0.900 | 0.400 |
| TPSY157*010#0100 | Y            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 6               | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY157*010#0150 | Y            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 6               | 150                          | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSY157*010#0200 | Y            | 150                 | 10                      | 85                           | 7                          | 125                             | 15                  | 6               | 200                          | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD227*010#0040 | D            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 40                           | 1               | 1.936                  | 1.743 | 0.775 |
| TPSD227*010#0050 | D            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD227*010#0100 | D            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD227*010#0150 | D            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 150                          | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE227*010#0050 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSE227*010#0060 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 60                           | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE227*010#0070 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 70                           | 1 <sup>1)</sup> | 1.535                  | 1.382 | 0.614 |
| TPSE227*010#0100 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE227*010#0125 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 125                          | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE227*010#0150 | E            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 8               | 150                          | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSY227*010#0100 | Y            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 10              | 100                          | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY227*010#0150 | Y            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 10              | 150                          | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSY227*010#0200 | Y            | 220                 | 10                      | 85                           | 7                          | 125                             | 22                  | 10              | 200                          | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD337*010#0050 | D            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 50                           | 1               | 1.732                  | 1.559 | 0.693 |
| TPSD337*010#0065 | D            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 65                           | 1               | 1.519                  | 1.367 | 0.608 |
| TPSD337*010#0100 | D            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 100                          | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD337*010#0150 | D            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 150                          | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE337*010#0040 | E            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 40                           | 1 <sup>1)</sup> | 2.031                  | 1.828 | 0.812 |
| TPSE337*010#0050 | E            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |
| TPSE337*010#0060 | E            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 60                           | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE337*010#0100 | E            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 8               | 100                          | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSV337*010#0040 | V            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 10              | 40                           | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV337*010#0060 | V            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 10              | 60                           | 1 <sup>1)</sup> | 2.041                  | 1.837 | 0.816 |
| TPSV337*010#0100 | V            | 330                 | 10                      | 85                           | 7                          | 125                             | 33                  | 10              | 100                          | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSE477*010#0045 | E            | 470                 | 10                      | 85                           | 7                          | 125                             | 47                  | 10              | 45                           | 1 <sup>1)</sup> | 1.915                  | 1.723 | 0.766 |
| TPSE477*010#0050 | E            | 470                 | 10                      | 85                           | 7                          | 125                             | 47                  | 10              | 50                           | 1 <sup>1)</sup> | 1.817                  | 1.635 | 0.727 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.          | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|-----------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                       |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSE477*010#0060      | E         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 60                     | 1 <sup>1)</sup> | 1.658                  | 1.492 | 0.663 |
| TPSE477*010#0100      | E         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE477*010#0200      | E         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSV477*010#0040      | V         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 40                     | 1 <sup>1)</sup> | 2.500                  | 2.250 | 1.000 |
| TPSV477*010#0060      | V         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 60                     | 1 <sup>1)</sup> | 2.041                  | 1.837 | 0.816 |
| TPSV477*010#0100      | V         | 470              | 10                | 85                     | 7                    | 125                       | 47            | 10        | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| <b>16 Volt @ 85°C</b> |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSA105*016#6200      | A         | 1                | 16                | 85                     | 10                   | 125                       | 0.5           | 4         | 6200                   | 1               | 0.110                  | 0.099 | 0.044 |
| TPSA225*016#1800      | A         | 2.2              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 1800                   | 1               | 0.204                  | 0.184 | 0.082 |
| TPSA225*016#3500      | A         | 2.2              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 3500                   | 1               | 0.146                  | 0.132 | 0.059 |
| TPST225*016#2000      | T         | 2.2              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 2000                   | 1               | 0.200                  | 0.180 | 0.080 |
| TPSA335*016#3500      | A         | 3.3              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 3500                   | 1               | 0.146                  | 0.132 | 0.059 |
| TPSB335*016#2500      | B         | 3.3              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 2500                   | 1               | 0.184                  | 0.166 | 0.074 |
| TPSA475*016#2000      | A         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 2000                   | 1               | 0.194                  | 0.174 | 0.077 |
| TPSB475*016#0800      | B         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 800                    | 1               | 0.326                  | 0.293 | 0.130 |
| TPSB475*016#1500      | B         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.238                  | 0.214 | 0.095 |
| TPSA685*016#1500      | A         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 1500                   | 1               | 0.224                  | 0.201 | 0.089 |
| TPSB685*016#0600      | B         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 600                    | 1               | 0.376                  | 0.339 | 0.151 |
| TPSB685*016#1200      | B         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 1200                   | 1               | 0.266                  | 0.240 | 0.106 |
| TPSA106*016#1000      | A         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 1000                   | 1               | 0.274                  | 0.246 | 0.110 |
| TPSB106*016#0500      | B         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB106*016#0800      | B         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 800                    | 1               | 0.326                  | 0.293 | 0.130 |
| TPSC106*016#0500      | C         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 500                    | 1               | 0.469                  | 0.422 | 0.188 |
| TPST106*016#0800      | T         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 8         | 800                    | 1               | 0.316                  | 0.285 | 0.126 |
| TPST106*016#1000      | T         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 8         | 1000                   | 1               | 0.283                  | 0.255 | 0.113 |
| TPSW106*016#0500      | W         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 500                    | 1               | 0.424                  | 0.382 | 0.170 |
| TPSW106*016#0600      | W         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 600                    | 1               | 0.387                  | 0.349 | 0.155 |
| TPSB156*016#0500      | B         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB156*016#0800      | B         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 800                    | 1               | 0.326                  | 0.293 | 0.130 |
| TPSC156*016#0300      | C         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSC156*016#0700      | C         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSB226*016#0400      | B         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 400                    | 1               | 0.461                  | 0.415 | 0.184 |
| TPSB226*016#0600      | B         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 600                    | 1               | 0.376                  | 0.339 | 0.151 |
| TPSC226*016#0150      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 150                    | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC226*016#0250      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 250                    | 1               | 0.663                  | 0.597 | 0.265 |
| TPSC226*016#0300      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSC226*016#0375      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 375                    | 1               | 0.542                  | 0.487 | 0.217 |
| TPSD226*016#0700      | D         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 700                    | 1               | 0.463                  | 0.417 | 0.185 |
| TPSW226*016#0500      | W         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 500                    | 1               | 0.424                  | 0.382 | 0.170 |
| TPSB336*016#0350      | B         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 8         | 350                    | 1               | 0.493                  | 0.444 | 0.197 |
| TPSB336*016#0500      | B         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 8         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSC336*016#0100      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 100                    | 1               | 1.049                  | 0.944 | 0.420 |
| TPSC336*016#0150      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 150                    | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC336*016#0225      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 225                    | 1               | 0.699                  | 0.629 | 0.280 |
| TPSC336*016#0300      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSD336*016#0200      | D         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSW336*016#0140      | W         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 140                    | 1               | 0.802                  | 0.722 | 0.321 |
| TPSW336*016#0175      | W         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 175                    | 1               | 0.717                  | 0.645 | 0.287 |
| TPSW336*016#0250      | W         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 250                    | 1               | 0.600                  | 0.540 | 0.240 |
| TPSW336*016#0400      | W         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 400                    | 1               | 0.474                  | 0.427 | 0.190 |
| TPSW336*016#0500      | W         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 500                    | 1               | 0.424                  | 0.382 | 0.170 |
| TPSY336*016#0300      | Y         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 300                    | 1 <sup>1)</sup> | 0.645                  | 0.581 | 0.258 |
| TPSY336*016#0400      | Y         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 400                    | 1 <sup>1)</sup> | 0.559                  | 0.503 | 0.224 |
| TPSC476*016#0110      | C         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 110                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSC476*016#0350      | C         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 350                    | 1               | 0.561                  | 0.505 | 0.224 |
| TPSD476*016#0080      | D         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 80                     | 1               | 1.369                  | 1.232 | 0.548 |
| TPSD476*016#0100      | D         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD476*016#0150      | D         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSD476*016#0200      | D         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSW476*016#0200      | W         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 200                    | 1               | 0.671                  | 0.604 | 0.268 |
| TPSX476*016#0180      | X         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 180                    | 1 <sup>1)</sup> | 0.745                  | 0.671 | 0.298 |
| TPSY476*016#0250      | Y         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 250                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSC686*016#0125      | C         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 125                    | 1               | 0.938                  | 0.844 | 0.375 |
| TPSC686*016#0200      | C         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 200                    | 1               | 0.742                  | 0.667 | 0.297 |
| TPSD686*016#0070      | D         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 70                     | 1               | 1.464                  | 1.317 | 0.586 |
| TPSD686*016#0100      | D         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD686*016#0150      | D         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSF686*016#0200      | F         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 10        | 200                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSX686*016#0150      | X         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 8         | 150                    | 1 <sup>1)</sup> | 0.816                  | 0.735 | 0.327 |
| TPSY686*016#0150      | Y         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 150                    | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSY686*016#0200      | Y         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSY686*016#0250      | Y         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 250                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.     | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                  |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSC107*016#0200 | C         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 8         | 200                    | 1               | 0.742                  | 0.667 | 0.297 |
| TPSD107*016#0060 | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 60                     | 1               | 1.581                  | 1.423 | 0.632 |
| TPSD107*016#0100 | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD107*016#0125 | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 125                    | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD107*016#0150 | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE107*016#0055 | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 55                     | 1 <sup>1)</sup> | 1.732                  | 1.559 | 0.693 |
| TPSE107*016#0100 | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE107*016#0125 | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE107*016#0150 | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSF107M016#0150 | F         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 10        | 150                    | 1               | 0.816                  | 0.735 | 0.327 |
| TPSF107M016#0200 | F         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 10        | 200                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSY107*016#0100 | Y         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 8         | 100                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSY107*016#0150 | Y         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 8         | 150                    | 1 <sup>1)</sup> | 0.913                  | 0.822 | 0.365 |
| TPSY107*016#0200 | Y         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 8         | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD157*016#0060 | D         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 6         | 60                     | 1               | 1.581                  | 1.423 | 0.632 |
| TPSD157*016#0085 | D         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 6         | 85                     | 1               | 1.328                  | 1.196 | 0.531 |
| TPSD157*016#0100 | D         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD157*016#0125 | D         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 6         | 125                    | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD157*016#0150 | D         | 150              | 16                | 85                     | 10                   | 125                       | 23            | 8         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE157*016#0100 | E         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSV157*016#0045 | V         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 8         | 45                     | 1 <sup>1)</sup> | 2.357                  | 2.121 | 0.943 |
| TPSV157*016#0075 | V         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 8         | 75                     | 1 <sup>1)</sup> | 1.826                  | 1.643 | 0.730 |
| TPSY157M016#0200 | Y         | 150              | 16                | 85                     | 10                   | 125                       | 24            | 15        | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSE227*016#0100 | E         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 10        | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE227*016#0150 | E         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 10        | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSV227*016#0050 | V         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 8         | 50                     | 1 <sup>1)</sup> | 2.236                  | 2.012 | 0.894 |
| TPSV227*016#0075 | V         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 8         | 75                     | 1 <sup>1)</sup> | 1.826                  | 1.643 | 0.730 |
| TPSV227*016#0100 | V         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 8         | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSV227*016#0150 | V         | 220              | 16                | 85                     | 10                   | 125                       | 35.2          | 8         | 150                    | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSE337M016#0200 | E         | 330              | 16                | 85                     | 10                   | 125                       | 52.8          | 30        | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| 20 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSA105*020#3000 | A         | 1                | 20                | 85                     | 13                   | 125                       | 0.5           | 4         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSR105*020#6000 | R         | 1                | 20                | 85                     | 13                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.096                  | 0.086 | 0.038 |
| TPSS105*020#6000 | S         | 1                | 20                | 85                     | 13                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.104                  | 0.094 | 0.042 |
| TPST105*020#2000 | T         | 1                | 20                | 85                     | 13                   | 125                       | 0.5           | 4         | 2000                   | 1               | 0.200                  | 0.180 | 0.080 |
| TPSA155*020#3000 | A         | 1.5              | 20                | 85                     | 13                   | 125                       | 0.5           | 6         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSA225*020#3000 | A         | 2.2              | 20                | 85                     | 13                   | 125                       | 0.5           | 6         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSB225*020#1700 | B         | 2.2              | 20                | 85                     | 13                   | 125                       | 0.5           | 6         | 1700                   | 1               | 0.224                  | 0.201 | 0.089 |
| TPSA335*020#2500 | A         | 3.3              | 20                | 85                     | 13                   | 125                       | 0.7           | 6         | 2500                   | 1               | 0.173                  | 0.156 | 0.069 |
| TPSB335*020#1300 | B         | 3.3              | 20                | 85                     | 13                   | 125                       | 0.7           | 6         | 1300                   | 1               | 0.256                  | 0.230 | 0.102 |
| TPSA475*020#1800 | A         | 4.7              | 20                | 85                     | 13                   | 125                       | 0.9           | 6         | 1800                   | 1               | 0.204                  | 0.184 | 0.082 |
| TPSB475*020#0750 | B         | 4.7              | 20                | 85                     | 13                   | 125                       | 0.9           | 6         | 750                    | 1               | 0.337                  | 0.303 | 0.135 |
| TPSB475*020#1000 | B         | 4.7              | 20                | 85                     | 13                   | 125                       | 0.9           | 6         | 1000                   | 1               | 0.292                  | 0.262 | 0.117 |
| TPSA685*020#1000 | A         | 6.8              | 20                | 85                     | 13                   | 125                       | 1.4           | 6         | 1000                   | 1               | 0.274                  | 0.246 | 0.110 |
| TPSB685*020#0600 | B         | 6.8              | 20                | 85                     | 13                   | 125                       | 1.4           | 6         | 600                    | 1               | 0.376                  | 0.339 | 0.151 |
| TPSB685*020#1000 | B         | 6.8              | 20                | 85                     | 13                   | 125                       | 1.4           | 6         | 1000                   | 1               | 0.292                  | 0.262 | 0.117 |
| TPSC685*020#0700 | C         | 6.8              | 20                | 85                     | 13                   | 125                       | 1.4           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSB106*020#0500 | B         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSB106*020#1000 | B         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 1000                   | 1               | 0.292                  | 0.262 | 0.117 |
| TPSC106*020#0500 | C         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 500                    | 1               | 0.469                  | 0.422 | 0.188 |
| TPSC106*020#0700 | C         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSW106*020#0250 | W         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 250                    | 1               | 0.600                  | 0.540 | 0.240 |
| TPSW106*020#0500 | W         | 10               | 20                | 85                     | 13                   | 125                       | 2             | 6         | 500                    | 1               | 0.424                  | 0.382 | 0.170 |
| TPSB156*020#0500 | B         | 15               | 20                | 85                     | 13                   | 125                       | 3             | 6         | 500                    | 1               | 0.412                  | 0.371 | 0.165 |
| TPSC156*020#0400 | C         | 15               | 20                | 85                     | 13                   | 125                       | 3             | 6         | 400                    | 1               | 0.524                  | 0.472 | 0.210 |
| TPSC156*020#0450 | C         | 15               | 20                | 85                     | 13                   | 125                       | 3             | 6         | 450                    | 1               | 0.494                  | 0.445 | 0.198 |
| TPSB226*020#0400 | B         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 400                    | 1               | 0.461                  | 0.415 | 0.184 |
| TPSB226*020#0600 | B         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 600                    | 1               | 0.376                  | 0.339 | 0.151 |
| TPSC226*020#0100 | C         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 100                    | 1               | 1.049                  | 0.944 | 0.420 |
| TPSC226*020#0150 | C         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 150                    | 1               | 0.856                  | 0.771 | 0.343 |
| TPSC226*020#0400 | C         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 400                    | 1               | 0.524                  | 0.472 | 0.210 |
| TPSD226*020#0200 | D         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD226*020#0300 | D         | 22               | 20                | 85                     | 13                   | 125                       | 4.4           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSC336*020#0300 | C         | 33               | 20                | 85                     | 13                   | 125                       | 6.6           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSD336*020#0100 | D         | 33               | 20                | 85                     | 13                   | 125                       | 6.6           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD336*020#0200 | D         | 33               | 20                | 85                     | 13                   | 125                       | 6.6           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD476*020#0075 | D         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 75                     | 1               | 1.414                  | 1.273 | 0.566 |
| TPSD476*020#0100 | D         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD476*020#0200 | D         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSE476*020#0070 | E         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 70                     | 1 <sup>1)</sup> | 1.535                  | 1.382 | 0.614 |
| TPSE476*020#0125 | E         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.     | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                  |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSE476*020#0150 | E         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSE476*020#0200 | E         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSE476*020#0250 | E         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 250                    | 1 <sup>1)</sup> | 0.812                  | 0.731 | 0.325 |
| TPSX476*020#0200 | X         | 47               | 20                | 85                     | 13                   | 125                       | 9.4           | 6         | 200                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSD686*020#0070 | D         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 70                     | 1               | 1.464                  | 1.317 | 0.586 |
| TPSD686*020#0150 | D         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSD686*020#0200 | D         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD686*020#0300 | D         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSE686*020#0125 | E         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE686*020#0150 | E         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSE686*020#0200 | E         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSY686*020#0200 | Y         | 68               | 20                | 85                     | 13                   | 125                       | 13.6          | 6         | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD107*020#0085 | D         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 85                     | 1               | 1.328                  | 1.196 | 0.531 |
| TPSD107*020#0100 | D         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD107*020#0150 | D         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSE107*020#0100 | E         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE107*020#0150 | E         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSE107*020#0200 | E         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSV107*020#0060 | V         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 8         | 60                     | 1 <sup>1)</sup> | 2.041                  | 1.837 | 0.816 |
| TPSV107*020#0085 | V         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 8         | 85                     | 1 <sup>1)</sup> | 1.715                  | 1.543 | 0.686 |
| TPSV107*020#0100 | V         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 8         | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSV107*020#0200 | V         | 100              | 20                | 85                     | 13                   | 125                       | 20            | 8         | 200                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSV157*020#0080 | V         | 150              | 20                | 85                     | 13                   | 125                       | 30            | 8         | 80                     | 1 <sup>1)</sup> | 1.768                  | 1.591 | 0.707 |
| 25 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSA474*025#7000 | A         | 0.47             | 25                | 85                     | 17                   | 125                       | 0.5           | 4         | 7000                   | 1               | 0.104                  | 0.093 | 0.041 |
| TPSA684*025#6000 | A         | 0.68             | 25                | 85                     | 17                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.112                  | 0.101 | 0.045 |
| TPSA105*025#4000 | A         | 1                | 25                | 85                     | 17                   | 125                       | 0.5           | 4         | 4000                   | 1               | 0.137                  | 0.123 | 0.055 |
| TPSR105*025#2500 | R         | 1                | 25                | 85                     | 17                   | 125                       | 0.5           | 4         | 2500                   | 1               | 0.148                  | 0.133 | 0.059 |
| TPSR105*025#4000 | R         | 1                | 25                | 85                     | 17                   | 125                       | 0.5           | 4         | 4000                   | 1               | 0.117                  | 0.106 | 0.047 |
| TPSA155*025#3000 | A         | 1.5              | 25                | 85                     | 17                   | 125                       | 0.5           | 6         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSB155*025#1800 | B         | 1.5              | 25                | 85                     | 17                   | 125                       | 0.5           | 6         | 1800                   | 1               | 0.217                  | 0.196 | 0.087 |
| TPSA225*025#2500 | A         | 2.2              | 25                | 85                     | 17                   | 125                       | 0.6           | 6         | 2500                   | 1               | 0.173                  | 0.156 | 0.069 |
| TPSB225*025#0900 | B         | 2.2              | 25                | 85                     | 17                   | 125                       | 0.6           | 6         | 900                    | 1               | 0.307                  | 0.277 | 0.123 |
| TPSB225*025#1200 | B         | 2.2              | 25                | 85                     | 17                   | 125                       | 0.6           | 6         | 1200                   | 1               | 0.266                  | 0.240 | 0.106 |
| TPSB225*025#2500 | B         | 2.2              | 25                | 85                     | 17                   | 125                       | 0.6           | 6         | 2500                   | 1               | 0.184                  | 0.166 | 0.074 |
| TPSA335*025#1000 | A         | 3.3              | 25                | 85                     | 17                   | 125                       | 0.8           | 6         | 1000                   | 1               | 0.274                  | 0.246 | 0.110 |
| TPSA335*025#1500 | A         | 3.3              | 25                | 85                     | 17                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.224                  | 0.201 | 0.089 |
| TPSB335*025#0750 | B         | 3.3              | 25                | 85                     | 17                   | 125                       | 0.8           | 6         | 750                    | 1               | 0.337                  | 0.303 | 0.135 |
| TPSB335*025#1500 | B         | 3.3              | 25                | 85                     | 17                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.238                  | 0.214 | 0.095 |
| TPSB335*025#2000 | B         | 3.3              | 25                | 85                     | 17                   | 125                       | 0.8           | 6         | 2000                   | 1               | 0.206                  | 0.186 | 0.082 |
| TPSB475*025#0700 | B         | 4.7              | 25                | 85                     | 17                   | 125                       | 1.2           | 6         | 700                    | 1               | 0.348                  | 0.314 | 0.139 |
| TPSB475*025#0900 | B         | 4.7              | 25                | 85                     | 17                   | 125                       | 1.2           | 6         | 900                    | 1               | 0.307                  | 0.277 | 0.123 |
| TPSB475*025#1500 | B         | 4.7              | 25                | 85                     | 17                   | 125                       | 1.2           | 6         | 1500                   | 1               | 0.238                  | 0.214 | 0.095 |
| TPSC475*025#0700 | C         | 4.7              | 25                | 85                     | 17                   | 125                       | 1.2           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSB685*025#0700 | B         | 6.8              | 25                | 85                     | 17                   | 125                       | 1.7           | 6         | 700                    | 1               | 0.348                  | 0.314 | 0.139 |
| TPSC685*025#0500 | C         | 6.8              | 25                | 85                     | 17                   | 125                       | 1.7           | 6         | 500                    | 1               | 0.469                  | 0.422 | 0.188 |
| TPSC685*025#0600 | C         | 6.8              | 25                | 85                     | 17                   | 125                       | 1.7           | 6         | 600                    | 1               | 0.428                  | 0.385 | 0.171 |
| TPSC685*025#0700 | C         | 6.8              | 25                | 85                     | 17                   | 125                       | 1.7           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSB106*025#1800 | B         | 10               | 25                | 85                     | 17                   | 125                       | 2.5           | 6         | 1800                   | 1               | 0.217                  | 0.196 | 0.087 |
| TPSC106*025#0300 | C         | 10               | 25                | 85                     | 17                   | 125                       | 2.5           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSC106*025#0500 | C         | 10               | 25                | 85                     | 17                   | 125                       | 2.5           | 6         | 500                    | 1               | 0.469                  | 0.422 | 0.188 |
| TPSD106*025#0500 | D         | 10               | 25                | 85                     | 17                   | 125                       | 2.5           | 6         | 500                    | 1               | 0.548                  | 0.493 | 0.219 |
| TPSC156*025#0220 | C         | 15               | 25                | 85                     | 17                   | 125                       | 3.8           | 6         | 220                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSC156*025#0300 | C         | 15               | 25                | 85                     | 17                   | 125                       | 3.8           | 6         | 300                    | 1               | 0.606                  | 0.545 | 0.242 |
| TPSD156*025#0100 | D         | 15               | 25                | 85                     | 17                   | 125                       | 3.8           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD156*025#0300 | D         | 15               | 25                | 85                     | 17                   | 125                       | 3.8           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSC226*025#0275 | C         | 22               | 25                | 85                     | 17                   | 125                       | 5.5           | 6         | 275                    | 1               | 0.632                  | 0.569 | 0.253 |
| TPSC226*025#0400 | C         | 22               | 25                | 85                     | 17                   | 125                       | 5.5           | 6         | 400                    | 1               | 0.524                  | 0.472 | 0.210 |
| TPSD226*025#0100 | D         | 22               | 25                | 85                     | 17                   | 125                       | 5.5           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD226*025#0200 | D         | 22               | 25                | 85                     | 17                   | 125                       | 5.5           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD226*025#0300 | D         | 22               | 25                | 85                     | 17                   | 125                       | 5.5           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSC336*025#0400 | C         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 400                    | 1               | 0.524                  | 0.472 | 0.210 |
| TPSD336*025#0100 | D         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD336*025#0200 | D         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD336*025#0300 | D         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSE336*025#0100 | E         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE336*025#0175 | E         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 175                    | 1 <sup>1)</sup> | 0.971                  | 0.874 | 0.388 |
| TPSE336*025#0200 | E         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSE336*025#0300 | E         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 300                    | 1 <sup>1)</sup> | 0.742                  | 0.667 | 0.297 |
| TPSY336*025#0200 | Y         | 33               | 25                | 85                     | 17                   | 125                       | 8.3           | 6         | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD476*025#0125 | D         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 125                    | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD476*025#0150 | D         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.     | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                  |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSD476*025#0250 | D         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 250                    | 1               | 0.775                  | 0.697 | 0.310 |
| TPSE476*025#0080 | E         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 80                     | 1 <sup>1)</sup> | 1.436                  | 1.293 | 0.574 |
| TPSE476*025#0100 | E         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE476*025#0125 | E         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSY476*025#0250 | Y         | 47               | 25                | 85                     | 17                   | 125                       | 11.8          | 6         | 250                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSD686*025#0300 | D         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSE686*025#0125 | E         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE686*025#0200 | E         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSV686*025#0080 | V         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 80                     | 1 <sup>1)</sup> | 1.768                  | 1.591 | 0.707 |
| TPSV686*025#0095 | V         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 95                     | 1 <sup>1)</sup> | 1.622                  | 1.460 | 0.649 |
| TPSV686*025#0150 | V         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 150                    | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSV686*025#0200 | V         | 68               | 25                | 85                     | 17                   | 125                       | 17            | 6         | 200                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSE107M025#0150 | E         | 100              | 25                | 85                     | 17                   | 125                       | 25            | 10        | 150                    | 1 <sup>1)</sup> | 1.049                  | 0.944 | 0.420 |
| TPSV107*025#0100 | V         | 100              | 25                | 85                     | 17                   | 125                       | 25            | 8         | 100                    | 1 <sup>1)</sup> | 1.581                  | 1.423 | 0.632 |
| TPSV157M025#0150 | V         | 150              | 25                | 85                     | 17                   | 125                       | 37.5          | 10        | 150                    | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| 35 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSA224*035#6000 | A         | 0.22             | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.112                  | 0.101 | 0.045 |
| TPSA334*035#6000 | A         | 0.33             | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.112                  | 0.101 | 0.045 |
| TPSA474*035#6000 | A         | 0.47             | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.112                  | 0.101 | 0.045 |
| TPSB474*035#4000 | B         | 0.47             | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 4000                   | 1               | 0.146                  | 0.131 | 0.058 |
| TPSA684*035#6000 | A         | 0.68             | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.112                  | 0.101 | 0.045 |
| TPSA105*035#3000 | A         | 1                | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSB105*035#2000 | B         | 1                | 35                | 85                     | 23                   | 125                       | 0.5           | 4         | 2000                   | 1               | 0.206                  | 0.186 | 0.082 |
| TPSA155*035#3000 | A         | 1.5              | 35                | 85                     | 23                   | 125                       | 0.5           | 6         | 3000                   | 1               | 0.158                  | 0.142 | 0.063 |
| TPSB155*035#2500 | B         | 1.5              | 35                | 85                     | 23                   | 125                       | 0.5           | 6         | 2500                   | 1               | 0.184                  | 0.166 | 0.074 |
| TPSA225*035#1500 | A         | 2.2              | 35                | 85                     | 23                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.224                  | 0.201 | 0.089 |
| TPSB225*035#0750 | B         | 2.2              | 35                | 85                     | 23                   | 125                       | 0.8           | 6         | 750                    | 1               | 0.337                  | 0.303 | 0.135 |
| TPSB225*035#1500 | B         | 2.2              | 35                | 85                     | 23                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.238                  | 0.214 | 0.095 |
| TPSB225*035#2000 | B         | 2.2              | 35                | 85                     | 23                   | 125                       | 0.8           | 6         | 2000                   | 1               | 0.206                  | 0.186 | 0.082 |
| TPSC225*035#1000 | C         | 2.2              | 35                | 85                     | 23                   | 125                       | 0.8           | 6         | 1000                   | 1               | 0.332                  | 0.298 | 0.133 |
| TPSB335*035#1000 | B         | 3.3              | 35                | 85                     | 23                   | 125                       | 1.2           | 6         | 1000                   | 1               | 0.292                  | 0.262 | 0.117 |
| TPSC335*035#0700 | C         | 3.3              | 35                | 85                     | 23                   | 125                       | 1.2           | 6         | 700                    | 1               | 0.396                  | 0.357 | 0.159 |
| TPSB475*035#0700 | B         | 4.7              | 35                | 85                     | 23                   | 125                       | 1.6           | 6         | 700                    | 1               | 0.348                  | 0.314 | 0.139 |
| TPSB475*035#1500 | B         | 4.7              | 35                | 85                     | 23                   | 125                       | 1.6           | 6         | 1500                   | 1               | 0.238                  | 0.214 | 0.095 |
| TPSC475*035#0600 | C         | 4.7              | 35                | 85                     | 23                   | 125                       | 1.6           | 6         | 600                    | 1               | 0.428                  | 0.385 | 0.171 |
| TPSD475*035#0700 | D         | 4.7              | 35                | 85                     | 23                   | 125                       | 1.6           | 6         | 700                    | 1               | 0.463                  | 0.417 | 0.185 |
| TPSC685*035#0350 | C         | 6.8              | 35                | 85                     | 23                   | 125                       | 2.4           | 6         | 350                    | 1               | 0.561                  | 0.505 | 0.224 |
| TPSD685*035#0150 | D         | 6.8              | 35                | 85                     | 23                   | 125                       | 2.4           | 6         | 150                    | 1               | 1.000                  | 0.900 | 0.400 |
| TPSD685*035#0400 | D         | 6.8              | 35                | 85                     | 23                   | 125                       | 2.4           | 6         | 400                    | 1               | 0.612                  | 0.551 | 0.245 |
| TPSD685*035#0500 | D         | 6.8              | 35                | 85                     | 23                   | 125                       | 2.4           | 6         | 500                    | 1               | 0.548                  | 0.493 | 0.219 |
| TPSC106*035#0600 | C         | 10               | 35                | 85                     | 23                   | 125                       | 3.5           | 6         | 600                    | 1               | 0.428                  | 0.385 | 0.171 |
| TPSD106*035#0125 | D         | 10               | 35                | 85                     | 23                   | 125                       | 3.5           | 6         | 125                    | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD106*035#0300 | D         | 10               | 35                | 85                     | 23                   | 125                       | 3.5           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSE106*035#0200 | E         | 10               | 35                | 85                     | 23                   | 125                       | 3.5           | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSY106*035#0250 | Y         | 10               | 35                | 85                     | 23                   | 125                       | 3.5           | 6         | 250                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSC156*035#0350 | C         | 15               | 35                | 85                     | 23                   | 125                       | 5.3           | 6         | 350                    | 1               | 0.561                  | 0.505 | 0.224 |
| TPSC156*035#0450 | C         | 15               | 35                | 85                     | 23                   | 125                       | 5.3           | 6         | 450                    | 1               | 0.494                  | 0.445 | 0.198 |
| TPSD156*035#0100 | D         | 15               | 35                | 85                     | 23                   | 125                       | 5.3           | 6         | 100                    | 1               | 1.225                  | 1.102 | 0.490 |
| TPSD156*035#0300 | D         | 15               | 35                | 85                     | 23                   | 125                       | 5.3           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSY156*035#0250 | Y         | 15               | 35                | 85                     | 23                   | 125                       | 5.3           | 6         | 250                    | 1 <sup>1)</sup> | 0.707                  | 0.636 | 0.283 |
| TPSD226*035#0125 | D         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 125                    | 1               | 1.095                  | 0.986 | 0.438 |
| TPSD226*035#0200 | D         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD226*035#0300 | D         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSD226*035#0400 | D         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 400                    | 1               | 0.612                  | 0.551 | 0.245 |
| TPSE226*035#0125 | E         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 125                    | 1 <sup>1)</sup> | 1.149                  | 1.034 | 0.460 |
| TPSE226*035#0200 | E         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSE226*035#0300 | E         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 300                    | 1 <sup>1)</sup> | 0.742                  | 0.667 | 0.297 |
| TPSY226*035#0200 | Y         | 22               | 35                | 85                     | 23                   | 125                       | 7.7           | 6         | 200                    | 1 <sup>1)</sup> | 0.791                  | 0.712 | 0.316 |
| TPSD336*035#0200 | D         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD336*035#0300 | D         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSE336*035#0100 | E         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 100                    | 1 <sup>1)</sup> | 1.285                  | 1.156 | 0.514 |
| TPSE336*035#0250 | E         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 250                    | 1 <sup>1)</sup> | 0.812                  | 0.731 | 0.325 |
| TPSE336*035#0300 | E         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 300                    | 1 <sup>1)</sup> | 0.742                  | 0.667 | 0.297 |
| TPSV336*035#0200 | V         | 33               | 35                | 85                     | 23                   | 125                       | 11.6          | 6         | 200                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSE476*035#0200 | E         | 47               | 35                | 85                     | 23                   | 125                       | 16.5          | 6         | 200                    | 1 <sup>1)</sup> | 0.908                  | 0.817 | 0.363 |
| TPSE476*035#0250 | E         | 47               | 35                | 85                     | 23                   | 125                       | 16.5          | 6         | 250                    | 1 <sup>1)</sup> | 0.812                  | 0.731 | 0.325 |
| TPSV476*035#0150 | V         | 47               | 35                | 85                     | 23                   | 125                       | 16.5          | 6         | 150                    | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSV476*035#0200 | V         | 47               | 35                | 85                     | 23                   | 125                       | 16.5          | 6         | 200                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| TPSV686*035#0150 | V         | 68               | 35                | 85                     | 23                   | 125                       | 23.8          | 6         | 150                    | 1 <sup>1)</sup> | 1.291                  | 1.162 | 0.516 |
| TPSV686*035#0200 | V         | 68               | 35                | 85                     | 23                   | 125                       | 23.8          | 6         | 200                    | 1 <sup>1)</sup> | 1.118                  | 1.006 | 0.447 |
| 50 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |           |                        |                 |                        |       |       |
| TPSA154*050#9000 | A         | 0.15             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 9000                   | 1               | 0.091                  | 0.082 | 0.037 |

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.     | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL             | 100kHz RMS Current (A) |       |       |
|------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----------------|------------------------|-------|-------|
|                  |           |                  |                   |                        |                      |                           |               |           |                        |                 | 25°C                   | 85°C  | 125°C |
| TPSA224*050#7000 | A         | 0.22             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 7000                   | 1               | 0.104                  | 0.093 | 0.041 |
| TPSA334*050#7000 | A         | 0.33             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 7000                   | 1               | 0.104                  | 0.093 | 0.041 |
| TPSA474*050#6500 | A         | 0.47             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 6500                   | 1               | 0.107                  | 0.097 | 0.043 |
| TPSB474*050#6000 | B         | 0.47             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 6000                   | 1               | 0.119                  | 0.107 | 0.048 |
| TPSC474*050#2300 | C         | 0.47             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 2300                   | 1               | 0.219                  | 0.197 | 0.087 |
| TPSB684*050#4000 | B         | 0.68             | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 4000                   | 1               | 0.146                  | 0.131 | 0.058 |
| TPSB105*050#3000 | B         | 1                | 50                | 85                     | 33                   | 125                       | 0.5           | 6         | 3000                   | 1               | 0.168                  | 0.151 | 0.067 |
| TPSC105*050#2500 | C         | 1                | 50                | 85                     | 33                   | 125                       | 0.5           | 4         | 2500                   | 1               | 0.210                  | 0.189 | 0.084 |
| TPSC155*050#1500 | C         | 1.5              | 50                | 85                     | 33                   | 125                       | 0.8           | 6         | 1500                   | 1               | 0.271                  | 0.244 | 0.108 |
| TPSC155*050#2000 | C         | 1.5              | 50                | 85                     | 33                   | 125                       | 0.8           | 6         | 2000                   | 1               | 0.235                  | 0.211 | 0.094 |
| TPSC225*050#1500 | C         | 2.2              | 50                | 85                     | 33                   | 125                       | 1.1           | 8         | 1500                   | 1               | 0.271                  | 0.244 | 0.108 |
| TPSD225*050#1200 | D         | 2.2              | 50                | 85                     | 33                   | 125                       | 1.1           | 6         | 1200                   | 1               | 0.354                  | 0.318 | 0.141 |
| TPSC335*050#1000 | C         | 3.3              | 50                | 85                     | 33                   | 125                       | 1.6           | 6         | 1000                   | 1               | 0.332                  | 0.298 | 0.133 |
| TPSD335*050#0800 | D         | 3.3              | 50                | 85                     | 33                   | 125                       | 1.7           | 6         | 800                    | 1               | 0.433                  | 0.390 | 0.173 |
| TPSC475*050#0800 | C         | 4.7              | 50                | 85                     | 33                   | 125                       | 2.4           | 6         | 800                    | 1               | 0.371                  | 0.334 | 0.148 |
| TPSD475*050#0250 | D         | 4.7              | 50                | 85                     | 33                   | 125                       | 2.4           | 6         | 250                    | 1               | 0.775                  | 0.697 | 0.310 |
| TPSD475*050#0300 | D         | 4.7              | 50                | 85                     | 33                   | 125                       | 2.4           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSD475*050#0500 | D         | 4.7              | 50                | 85                     | 33                   | 125                       | 2.4           | 6         | 500                    | 1               | 0.548                  | 0.493 | 0.219 |
| TPSD475*050#0700 | D         | 4.7              | 50                | 85                     | 33                   | 125                       | 2.4           | 6         | 700                    | 1               | 0.463                  | 0.417 | 0.185 |
| TPSD685*050#0200 | D         | 6.8              | 50                | 85                     | 33                   | 125                       | 3.4           | 6         | 200                    | 1               | 0.866                  | 0.779 | 0.346 |
| TPSD685*050#0300 | D         | 6.8              | 50                | 85                     | 33                   | 125                       | 3.4           | 6         | 300                    | 1               | 0.707                  | 0.636 | 0.283 |
| TPSD685*050#0500 | D         | 6.8              | 50                | 85                     | 33                   | 125                       | 3.4           | 6         | 500                    | 1               | 0.548                  | 0.493 | 0.219 |
| TPSD685*050#0600 | D         | 6.8              | 50                | 85                     | 33                   | 125                       | 3.4           | 6         | 600                    | 1               | 0.500                  | 0.450 | 0.200 |
| TPSD106*050#0500 | D         | 10               | 50                | 85                     | 33                   | 125                       | 5             | 6         | 500                    | 1               | 0.548                  | 0.493 | 0.219 |
| TPSE106*050#0250 | E         | 10               | 50                | 85                     | 33                   | 125                       | 5             | 6         | 250                    | 1 <sup>1)</sup> | 0.812                  | 0.731 | 0.325 |
| TPSE106*050#0300 | E         | 10               | 50                | 85                     | 33                   | 125                       | 5             | 6         | 300                    | 1 <sup>1)</sup> | 0.742                  | 0.667 | 0.297 |
| TPSE106*050#0400 | E         | 10               | 50                | 85                     | 33                   | 125                       | 5             | 6         | 400                    | 1 <sup>1)</sup> | 0.642                  | 0.578 | 0.257 |
| TPSE106*050#0500 | E         | 10               | 50                | 85                     | 33                   | 125                       | 5             | 6         | 500                    | 1 <sup>1)</sup> | 0.574                  | 0.517 | 0.230 |
| TPSE156*050#0250 | E         | 15               | 50                | 85                     | 33                   | 125                       | 7.5           | 6         | 250                    | 1 <sup>1)</sup> | 0.812                  | 0.731 | 0.325 |
| TPSV156*050#0250 | V         | 15               | 50                | 85                     | 33                   | 125                       | 7.5           | 6         | 250                    | 1 <sup>1)</sup> | 1.000                  | 0.900 | 0.400 |

1<sup>1)</sup> -Dry pack option (see How to order) recommended for reduction of stress during soldering. Dry pack parts should be treated as MSL 3.

For AEC-Q200 availability, please contact AVX.

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts.

DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 214.

**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**

### QUALIFICATION TABLE

| TEST                  | TPS series (Temperature range -55°C to +125°C)                                                                                                                                                                                                                                                 |               |               |                    |                              |           |            |            |            |            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------------|------------------------------|-----------|------------|------------|------------|------------|
|                       | Condition                                                                                                                                                                                                                                                                                      |               |               | Characteristics    |                              |           |            |            |            |            |
| Endurance             | Determine after application of rated voltage for 2000 +48/-0 hours at 85±2°C and then leaving 1-2 hours at room temperature. Also determine of 125°C temperature, category voltage for 2000 +48/-0 hours and then leaving 1-2 hours at room temperature. Power supply impedance to be ≤0.1Ω/V. |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 1.5 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Humidity              | Determine after storage without applied voltage at 65±2°C and 95±2% relative humidity for 500 hours and then recovery 1-2 hours at room temperature.                                                                                                                                           |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 1.5 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | 1.2 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Temperature Stability | Step                                                                                                                                                                                                                                                                                           | Temperature°C | Duration(min) |                    | +20°C                        | -55°C     | +20°C      | +85°C      | +125°C     | +20°C      |
|                       | 1                                                                                                                                                                                                                                                                                              | +20±2         | 15            | DCL                | IL*                          | n/a       | IL*        | 10 x IL*   | 12.5 x IL* | IL*        |
|                       | 2                                                                                                                                                                                                                                                                                              | -55+0/-3      | 15            | ΔC/C               | n/a                          | +0/-10%   | ±5%        | +10/-0%    | +12/-0%    | ±5%        |
|                       | 3                                                                                                                                                                                                                                                                                              | +20±2         | 15            | DF                 | IL*                          | 1.5 x IL* | IL*        | 1.5 x IL*  | 2 x IL*    | IL*        |
|                       | 4                                                                                                                                                                                                                                                                                              | +85+3/-0      | 15            |                    |                              |           |            |            |            |            |
|                       | 5                                                                                                                                                                                                                                                                                              | +125+3/-0     | 15            | ESR                | 1.25 x IL*                   | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* |
| Surge Voltage         | Test temperature: 125°C+3/0°C<br>Test voltage: Category voltage at 125°C<br>Surge voltage: 1.3 x category voltage at 125°C<br>Series protection resistance 1000±100Ω<br>Discharge resistance: 1000Ω<br>Number of cycles: 1000x<br>Cycle duration: 6 min; 30 sec charge, 5 min 30 sec discharge |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±5% of initial value  |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |

\*Initial Limit

# TPS Automotive Range



## Low ESR - Automotive Product Range

### TPS AUTOMOTIVE RANGE CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) to 85°C   |                                            |                                          |                                    |                             |                               |                               |
|-------------|------|----------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------|-----------------------------|-------------------------------|-------------------------------|
| µF          | Code | 6.3V (J)                                     | 10V (A)                                    | 16V (C)                                  | 20V (D)                            | 25V (E)                     | 35V (V)                       | 50V (T)                       |
| 0.15        | 154  |                                              |                                            |                                          |                                    |                             |                               |                               |
| 0.22        | 224  |                                              |                                            |                                          |                                    |                             |                               | A(7000)                       |
| 0.33        | 334  |                                              |                                            |                                          |                                    |                             | A(6000)                       | A(7000)                       |
| 0.47        | 474  |                                              |                                            |                                          |                                    | A(7000)                     | A(6000)                       | A(6500), B(6000)              |
| 0.68        | 684  |                                              |                                            |                                          |                                    | A(6000)                     | A(6000)                       | B(4000)                       |
| 1.0         | 105  |                                              |                                            | A(6200)                                  | A(3000)                            | A(4000)                     | A(3000), B(2000)              | B(3000), C(2500)              |
| 1.5         | 155  |                                              |                                            |                                          | A(3000)                            | A(3000)                     | A(3000), B(2500)              | C(1500, 2000)                 |
| 2.2         | 225  |                                              | A(1800)                                    | A(1800, 3500)                            | A(3000), B(1700)                   | A(2500), B(900, 1200, 2500) | B(750, 1500, 2000), C(1000)   | C(1500), D(1200)              |
| 3.3         | 335  | A(2100)                                      |                                            | A(3500), B(2500)                         | A(2500), B(1300)                   | B(750, 1500, 2000)          | B(1000), C(700)               | C(1000), D(800)               |
| 4.7         | 475  |                                              | A(1400), B(1400)                           | A(2000), B(800, 1500)                    | A(1800), B(750, 1000)              | B(700, 900), C(700)         | B(700, 1500), C(600), D(700)  | C(800), D(250, 500, 700)      |
| 6.8         | 685  |                                              | A(1800), B(1300)                           | A(1500), B(600, 1200)                    | B(600, 1000), C(700)               | B(700), C(500, 600, 700)    | C(350), D(400, 500)           | D(500, 600)                   |
| 10          | 106  | A(1500), B(1500)                             | A(900, 1800), B(1000)                      | A(1000), B(500, 800), C(500)             | B(500, 1000), C(500, 700)          | C(300, 500), D(500)         | C(600), D(300)                | D(500), E(250, 300, 400, 500) |
| 15          | 156  | A(700, 1500)                                 | A(1000), B(450, 600), C(700)               | B(500, 800), C(300, 700)                 | B(500), C(400, 450)                | C(220, 300), D(300)         | D(300)                        | E(250)                        |
| 22          | 226  | A(500, 900), B(375, 600), C(500)             | A(900), B(400, 500, 700), C(180, 300)      | B(400, 600), C(300, 375), D(500), D(700) | C(400), D(200, 300)                | C(275, 400), D(200, 300)    | D(200, 300, 400), E(200, 300) |                               |
| 33          | 336  | A(600), B(250, 350, 450, 600)                | B(250, 425, 500, 650), C(375, 500)         | C(225, 300), D(200)                      | C(300), D(160, 200)                | D(200, 300)                 | E(250, 300)                   |                               |
| 47          | 476  | B(250, 350, 500), C(300)                     | B(250, 350, 500, 650), C(200, 350), D(300) | C(350), D(200)                           | D(200)                             | D(125, 150, 250), E(125)    |                               |                               |
| 68          | 686  | B(250, 350, 500), C(150, 200)                | C(200, 300), D(150)                        | C(200), D(150)                           | D(150, 200, 300), E(125, 150, 200) |                             |                               |                               |
| 100         | 107  | C(150), D(300)                               | C(150, 200), D(100, 125, 150)              | D(100, 125, 150), E(100, 125, 150)       | E(100, 150, 200)                   |                             |                               |                               |
| 150         | 157  | C(150, 200, 250), D(125)                     | D(85, 100), E(100)                         | E(100)                                   |                                    |                             |                               |                               |
| 220         | 227  | D(100, 125)                                  | D(100, 150), E(70, 100, 125, 150)          |                                          |                                    |                             |                               |                               |
| 330         | 337  | D(70, 100), E(100, 125, 150)                 | E(50, 60, 100)                             |                                          |                                    |                             |                               |                               |
| 470         | 477  | D(45, 60, 100, 200), E(45, 50, 60, 100, 200) |                                            |                                          |                                    |                             |                               |                               |
| 680         | 687  | E(45, 60, 100)                               |                                            |                                          |                                    |                             |                               |                               |

Not recommended for new designs, higher voltage or smaller case size substitution are offered.

Released codes

Engineering samples - please contact manufacturer

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

## HOW TO ORDER

|            |                              |                                                                                                                                        |                                   |                                                                               |                                                                                    |             |                                               |
|------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------|-----------------------------------------------|
| <b>TPS</b> | <b>C</b>                     | <b>107</b>                                                                                                                             | <b>M</b>                          | <b>010</b>                                                                    | <b>T</b>                                                                           | <b>0150</b> | <b>V</b>                                      |
| Type       | Case Size<br>See table above | Capacitance Code<br>pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow) | Tolerance<br>K = ±10%<br>M = ±20% | Rated DC Voltage<br>006 = 6.3Vdc<br>010 = 10Vdc<br>016 = 16Vdc<br>020 = 20Vdc | Packaging<br>T = Automotive Lead Free 7" Reel<br>U = Automotive Lead Free 13" Reel | ESR in mΩ   | Dry Pack Option<br>(D,E case sizes mandatory) |

## TECHNICAL SPECIFICATIONS

Technical Data:

All technical data relate to an ambient temperature of +25°C

Capacitance Range: 0.22 µF to 680 µF

Capacitance Tolerance: ±10%; ±20%

|                                    |           |     |    |    |    |    |    |    |  |
|------------------------------------|-----------|-----|----|----|----|----|----|----|--|
| Rated Voltage (V <sub>R</sub> )    | ≤ +85°C:  | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |  |
| Category Voltage (V <sub>C</sub> ) | ≤ +125°C: | 4   | 7  | 10 | 13 | 17 | 23 | 33 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:  | 8   | 13 | 20 | 26 | 32 | 46 | 65 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +125°C: | 5   | 8  | 13 | 16 | 20 | 28 | 40 |  |

Temperature Range: -55°C to +125°C

Environmental Classification: 55/125/56 (IEC 68-2)

Reliability: 1% per 1000 hours at 85°C, V<sub>R</sub> with 0.1Ω/V series impedance, 60% confidence level

Termination Finished: Sn Plating (standard), Gold and SnPb Plating upon request

Meets requirements of AEC-Q200



LEAD-FREE  
LEAD-FREE COMPATIBLE  
COMPONENT



RoHS  
COMPLIANT



# TPS Automotive Range



## Low ESR - Automotive Product Range

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.   | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(µA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL | 100kHz RMS Current (A) |       |       |
|-------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----|------------------------|-------|-------|
|                   |              |                     |                         |                              |                            |                                 |                     |                 |                              |     | 25°C                   | 85°C  | 125°C |
| 6.3 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA335*006T2100  | A            | 3.3                 | 6.3                     | 85                           | 4                          | 125                             | 0.5                 | 6               | 2100                         | 1   | 0.189                  | 0.170 | 0.076 |
| TPSA106*006T1500  | A            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 6               | 1500                         | 1   | 0.224                  | 0.201 | 0.089 |
| TPSB106*006T1500  | B            | 10                  | 6.3                     | 85                           | 4                          | 125                             | 0.6                 | 6               | 1500                         | 1   | 0.238                  | 0.214 | 0.095 |
| TPSA156*006T0700  | A            | 15                  | 6.3                     | 85                           | 4                          | 125                             | 0.9                 | 6               | 700                          | 1   | 0.327                  | 0.295 | 0.131 |
| TPSA156*006T1500  | A            | 15                  | 6.3                     | 85                           | 4                          | 125                             | 0.9                 | 6               | 1500                         | 1   | 0.224                  | 0.201 | 0.089 |
| TPSA226*006T0500  | A            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 500                          | 1   | 0.387                  | 0.349 | 0.155 |
| TPSA226*006T0900  | A            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 900                          | 1   | 0.289                  | 0.260 | 0.115 |
| TPSB226*006T0375  | B            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 375                          | 1   | 0.476                  | 0.428 | 0.190 |
| TPSB226*006T0600  | B            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 600                          | 1   | 0.376                  | 0.339 | 0.151 |
| TPSC226*006T0500  | C            | 22                  | 6.3                     | 85                           | 4                          | 125                             | 1.4                 | 6               | 500                          | 1   | 0.469                  | 0.422 | 0.188 |
| TPSA336*006T0600  | A            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 8               | 600                          | 1   | 0.354                  | 0.318 | 0.141 |
| TPSB336*006T0250  | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 250                          | 1   | 0.583                  | 0.525 | 0.233 |
| TPSB336*006T0350  | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 350                          | 1   | 0.493                  | 0.444 | 0.197 |
| TPSB336*006T0450  | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 450                          | 1   | 0.435                  | 0.391 | 0.174 |
| TPSB336*006T0600  | B            | 33                  | 6.3                     | 85                           | 4                          | 125                             | 2.1                 | 6               | 600                          | 1   | 0.376                  | 0.339 | 0.151 |
| TPSB476*006T0250  | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 250                          | 1   | 0.583                  | 0.525 | 0.233 |
| TPSB476*006T0350  | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 350                          | 1   | 0.493                  | 0.444 | 0.197 |
| TPSB476*006T0500  | B            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 500                          | 1   | 0.412                  | 0.371 | 0.165 |
| TPSC476*006T0300  | C            | 47                  | 6.3                     | 85                           | 4                          | 125                             | 3                   | 6               | 300                          | 1   | 0.606                  | 0.545 | 0.242 |
| TPSB686*006T0250  | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 250                          | 1   | 0.583                  | 0.525 | 0.233 |
| TPSB686*006T0350  | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 350                          | 1   | 0.493                  | 0.444 | 0.197 |
| TPSB686*006T0500  | B            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4                   | 8               | 500                          | 1   | 0.412                  | 0.371 | 0.165 |
| TPSC686*006T0150  | C            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 150                          | 1   | 0.856                  | 0.771 | 0.343 |
| TPSC686*006T0200  | C            | 68                  | 6.3                     | 85                           | 4                          | 125                             | 4.3                 | 6               | 200                          | 1   | 0.742                  | 0.667 | 0.297 |
| TPSC107*006T0150  | C            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 150                          | 1   | 0.856                  | 0.771 | 0.343 |
| TPSD107*006T0300V | D            | 100                 | 6.3                     | 85                           | 4                          | 125                             | 6.3                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSC157*006T0150  | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 150                          | 1   | 0.856                  | 0.771 | 0.343 |
| TPSC157*006T0200  | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 200                          | 1   | 0.742                  | 0.667 | 0.297 |
| TPSC157*006T0250  | C            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 250                          | 1   | 0.663                  | 0.597 | 0.265 |
| TPSD157*006T0125V | D            | 150                 | 6.3                     | 85                           | 4                          | 125                             | 9.5                 | 6               | 125                          | 3   | 1.095                  | 0.986 | 0.438 |
| TPSD227*006T0100V | D            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 100                          | 3   | 1.225                  | 1.102 | 0.490 |
| TPSD227*006T0125V | D            | 220                 | 6.3                     | 85                           | 4                          | 125                             | 13.9                | 8               | 125                          | 3   | 1.095                  | 0.986 | 0.438 |
| TPSD337*006T0070V | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 70                           | 3   | 1.464                  | 1.317 | 0.586 |
| TPSD337*006T0100V | D            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 100                          | 3   | 1.225                  | 1.102 | 0.490 |
| TPSE337*006T0100V | E            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 100                          | 3   | 1.285                  | 1.156 | 0.514 |
| TPSE337*006T0125V | E            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 125                          | 3   | 1.149                  | 1.034 | 0.460 |
| TPSE337*006T0150V | E            | 330                 | 6.3                     | 85                           | 4                          | 125                             | 20.8                | 8               | 150                          | 3   | 1.049                  | 0.944 | 0.420 |
| TPSD477*006T0045V | D            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 12              | 45                           | 3   | 1.826                  | 1.643 | 0.730 |
| TPSD477*006T0060V | D            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 12              | 60                           | 3   | 1.581                  | 1.423 | 0.632 |
| TPSD477*006T0100V | D            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 12              | 100                          | 3   | 1.225                  | 1.102 | 0.490 |
| TPSD477*006T0200V | D            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 12              | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSE477*006T0045V | E            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 10              | 45                           | 3   | 1.915                  | 1.723 | 0.766 |
| TPSE477*006T0050V | E            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 10              | 50                           | 3   | 1.817                  | 1.635 | 0.727 |
| TPSE477*006T0060V | E            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 10              | 60                           | 3   | 1.658                  | 1.492 | 0.663 |
| TPSE477*006T0100V | E            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 10              | 100                          | 3   | 1.285                  | 1.156 | 0.514 |
| TPSE477*006T0200V | E            | 470                 | 6.3                     | 85                           | 4                          | 125                             | 28                  | 10              | 200                          | 3   | 0.908                  | 0.817 | 0.363 |
| TPSE687*006T0045V | E            | 680                 | 6.3                     | 85                           | 4                          | 125                             | 42.8                | 10              | 45                           | 3   | 1.915                  | 1.723 | 0.766 |
| TPSE687*006T0060V | E            | 680                 | 6.3                     | 85                           | 4                          | 125                             | 42.8                | 10              | 60                           | 3   | 1.658                  | 1.492 | 0.663 |
| TPSE687*006T0100V | E            | 680                 | 6.3                     | 85                           | 4                          | 125                             | 42.8                | 10              | 100                          | 3   | 1.285                  | 1.156 | 0.514 |
| 10 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA225*010T1800  | A            | 2.2                 | 10                      | 85                           | 7                          | 125                             | 0.5                 | 6               | 1800                         | 1   | 0.204                  | 0.184 | 0.082 |
| TPSA475*010T1400  | A            | 4.7                 | 10                      | 85                           | 7                          | 125                             | 0.5                 | 6               | 1400                         | 1   | 0.231                  | 0.208 | 0.093 |
| TPSB475*010T1400  | B            | 4.7                 | 10                      | 85                           | 7                          | 125                             | 0.5                 | 6               | 1400                         | 1   | 0.246                  | 0.222 | 0.099 |
| TPSA685*010T1800  | A            | 6.8                 | 10                      | 85                           | 7                          | 125                             | 0.7                 | 6               | 1800                         | 1   | 0.204                  | 0.184 | 0.082 |
| TPSB685*010T1300  | B            | 6.8                 | 10                      | 85                           | 7                          | 125                             | 0.7                 | 6               | 1300                         | 1   | 0.256                  | 0.230 | 0.102 |
| TPSA106*010T0900  | A            | 10                  | 10                      | 85                           | 7                          | 125                             | 1                   | 6               | 900                          | 1   | 0.289                  | 0.260 | 0.115 |
| TPSA106*010T1800  | A            | 10                  | 10                      | 85                           | 7                          | 125                             | 1                   | 6               | 1800                         | 1   | 0.204                  | 0.184 | 0.082 |
| TPSB106*010T1000  | B            | 10                  | 10                      | 85                           | 7                          | 125                             | 1                   | 6               | 1000                         | 1   | 0.292                  | 0.262 | 0.117 |
| TPSA156*010T1000  | A            | 15                  | 10                      | 85                           | 7                          | 125                             | 1.5                 | 6               | 1000                         | 1   | 0.274                  | 0.246 | 0.110 |
| TPSB156*010T0450  | B            | 15                  | 10                      | 85                           | 7                          | 125                             | 1.5                 | 6               | 450                          | 1   | 0.435                  | 0.391 | 0.174 |
| TPSB156*010T0600  | B            | 15                  | 10                      | 85                           | 7                          | 125                             | 1.5                 | 6               | 600                          | 1   | 0.376                  | 0.339 | 0.151 |
| TPSC156*010T0700  | C            | 15                  | 10                      | 85                           | 7                          | 125                             | 1.5                 | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSA226*010T0900  | A            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 8               | 900                          | 1   | 0.289                  | 0.260 | 0.115 |
| TPSB226*010T0400  | B            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 6               | 400                          | 1   | 0.461                  | 0.415 | 0.184 |
| TPSB226*010T0500  | B            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 6               | 500                          | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB226*010T0700  | B            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 6               | 700                          | 1   | 0.348                  | 0.314 | 0.139 |
| TPSC226*010T0180  | C            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 6               | 180                          | 1   | 0.782                  | 0.704 | 0.313 |
| TPSC226*010T0300  | C            | 22                  | 10                      | 85                           | 7                          | 125                             | 2.2                 | 6               | 300                          | 1   | 0.606                  | 0.545 | 0.242 |
| TPSB336*010T0250  | B            | 33                  | 10                      | 85                           | 7                          | 125                             | 3.3                 | 6               | 250                          | 1   | 0.583                  | 0.525 | 0.233 |
| TPSB336*010T0425  | B            | 33                  | 10                      | 85                           | 7                          | 125                             | 3.3                 | 6               | 425                          | 1   | 0.447                  | 0.402 | 0.179 |

# TPS Automotive Range



## Low ESR - Automotive Product Range

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.          | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL (µA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL | 100kHz RMS Current (A) |       |       |
|-----------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-----------|------------------------|-----|------------------------|-------|-------|
|                       |           |                  |                   |                        |                      |                           |               |           |                        |     | 25°C                   | 85°C  | 125°C |
| TPSB336*010T0500      | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 500                    | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB336*010T0650      | B         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 650                    | 1   | 0.362                  | 0.325 | 0.145 |
| TPSC336*010T0375      | C         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 375                    | 1   | 0.542                  | 0.487 | 0.217 |
| TPSC336*010T0500      | C         | 33               | 10                | 85                     | 7                    | 125                       | 3.3           | 6         | 500                    | 1   | 0.469                  | 0.422 | 0.188 |
| TPSB476*010T0250      | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 250                    | 1   | 0.583                  | 0.525 | 0.233 |
| TPSB476*010T0350      | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 350                    | 1   | 0.493                  | 0.444 | 0.197 |
| TPSB476*010T0500      | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 500                    | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB476*010T0650      | B         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 8         | 650                    | 1   | 0.362                  | 0.325 | 0.145 |
| TPSC476*010T0200      | C         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 6         | 200                    | 1   | 0.742                  | 0.667 | 0.297 |
| TPSC476*010T0350      | C         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 6         | 350                    | 1   | 0.561                  | 0.505 | 0.224 |
| TPSD476*010T0300V     | D         | 47               | 10                | 85                     | 7                    | 125                       | 4.7           | 6         | 300                    | 3   | 0.707                  | 0.636 | 0.283 |
| TPSC686*010T0200      | C         | 68               | 10                | 85                     | 7                    | 125                       | 6.8           | 6         | 200                    | 1   | 0.742                  | 0.667 | 0.297 |
| TPSC686*010T0300      | C         | 68               | 10                | 85                     | 7                    | 125                       | 6.8           | 6         | 300                    | 1   | 0.606                  | 0.545 | 0.242 |
| TPSD686*010T0150V     | D         | 68               | 10                | 85                     | 7                    | 125                       | 6.8           | 6         | 150                    | 3   | 1.000                  | 0.900 | 0.400 |
| TPSC107*010T0150      | C         | 100              | 10                | 85                     | 7                    | 125                       | 10            | 8         | 150                    | 1   | 0.856                  | 0.771 | 0.343 |
| TPSC107*010T0200      | C         | 100              | 10                | 85                     | 7                    | 125                       | 10            | 8         | 200                    | 1   | 0.742                  | 0.667 | 0.297 |
| TPSD107*010T0100V     | D         | 100              | 10                | 85                     | 7                    | 125                       | 10            | 6         | 100                    | 3   | 1.225                  | 1.102 | 0.490 |
| TPSD107*010T0125V     | D         | 100              | 10                | 85                     | 7                    | 125                       | 10            | 6         | 125                    | 3   | 1.095                  | 0.986 | 0.438 |
| TPSD107*010T0150V     | D         | 100              | 10                | 85                     | 7                    | 125                       | 10            | 6         | 150                    | 3   | 1.000                  | 0.900 | 0.400 |
| TPSD157*010T0085V     | D         | 150              | 10                | 85                     | 7                    | 125                       | 15            | 8         | 85                     | 3   | 1.328                  | 1.196 | 0.531 |
| TPSD157*010T0100V     | D         | 150              | 10                | 85                     | 7                    | 125                       | 15            | 8         | 100                    | 3   | 1.225                  | 1.102 | 0.490 |
| TPSE157*010T0100V     | E         | 150              | 10                | 85                     | 7                    | 125                       | 15            | 8         | 100                    | 3   | 1.285                  | 1.156 | 0.514 |
| TPSD227*010T0100V     | D         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 100                    | 3   | 1.225                  | 1.102 | 0.490 |
| TPSD227*010T0150V     | D         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 150                    | 3   | 1.000                  | 0.900 | 0.400 |
| TPSE227*010T0070V     | E         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 70                     | 3   | 1.535                  | 1.382 | 0.614 |
| TPSE227*010T0100V     | E         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 100                    | 3   | 1.285                  | 1.156 | 0.514 |
| TPSE227*010T0125V     | E         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 125                    | 3   | 1.149                  | 1.034 | 0.460 |
| TPSE227*010T0150V     | E         | 220              | 10                | 85                     | 7                    | 125                       | 22            | 8         | 150                    | 3   | 1.049                  | 0.944 | 0.420 |
| TPSE337*010T0050V     | E         | 330              | 10                | 85                     | 7                    | 125                       | 33            | 8         | 50                     | 3   | 1.817                  | 1.635 | 0.727 |
| TPSE337*010T0060V     | E         | 330              | 10                | 85                     | 7                    | 125                       | 33            | 8         | 60                     | 3   | 1.658                  | 1.492 | 0.663 |
| TPSE337*010T0100V     | E         | 330              | 10                | 85                     | 7                    | 125                       | 33            | 8         | 100                    | 3   | 1.285                  | 1.156 | 0.514 |
| <b>16 Volt @ 85°C</b> |           |                  |                   |                        |                      |                           |               |           |                        |     |                        |       |       |
| TPSA105*016T6200      | A         | 1.0              | 16                | 85                     | 10                   | 125                       | 0.5           | 4         | 6200                   | 1   | 0.110                  | 0.099 | 0.044 |
| TPSA225*016T1800      | A         | 2.2              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 1800                   | 1   | 0.204                  | 0.184 | 0.082 |
| TPSA225*016T3500      | A         | 2.2              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 3500                   | 1   | 0.146                  | 0.132 | 0.059 |
| TPSA335*016T3500      | A         | 3.3              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 3500                   | 1   | 0.146                  | 0.132 | 0.059 |
| TPSB335*016T2500      | B         | 3.3              | 16                | 85                     | 10                   | 125                       | 0.5           | 6         | 2500                   | 1   | 0.184                  | 0.166 | 0.074 |
| TPSA475*016T2000      | A         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 2000                   | 1   | 0.194                  | 0.174 | 0.077 |
| TPSB475*016T0800      | B         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 800                    | 1   | 0.326                  | 0.293 | 0.130 |
| TPSB475*016T1500      | B         | 4.7              | 16                | 85                     | 10                   | 125                       | 0.8           | 6         | 1500                   | 1   | 0.238                  | 0.214 | 0.095 |
| TPSA685*016T1500      | A         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 1500                   | 1   | 0.224                  | 0.201 | 0.089 |
| TPSB685*016T0600      | B         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 600                    | 1   | 0.376                  | 0.339 | 0.151 |
| TPSB685*016T1200      | B         | 6.8              | 16                | 85                     | 10                   | 125                       | 1.1           | 6         | 1200                   | 1   | 0.266                  | 0.240 | 0.106 |
| TPSA106*016T1000      | A         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 1000                   | 1   | 0.274                  | 0.246 | 0.110 |
| TPSB106*016T0500      | B         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 500                    | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB106*016T0800      | B         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 800                    | 1   | 0.326                  | 0.293 | 0.130 |
| TPSC106*016T0500      | C         | 10               | 16                | 85                     | 10                   | 125                       | 1.6           | 6         | 500                    | 1   | 0.469                  | 0.422 | 0.188 |
| TPSB156*016T0500      | B         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 500                    | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB156*016T0800      | B         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 800                    | 1   | 0.326                  | 0.293 | 0.130 |
| TPSC156*016T0300      | C         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 300                    | 1   | 0.606                  | 0.545 | 0.242 |
| TPSC156*016T0700      | C         | 15               | 16                | 85                     | 10                   | 125                       | 2.4           | 6         | 700                    | 1   | 0.396                  | 0.357 | 0.159 |
| TPSB226*016T0400      | B         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 400                    | 1   | 0.461                  | 0.415 | 0.184 |
| TPSB226*016T0600      | B         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 600                    | 1   | 0.376                  | 0.339 | 0.151 |
| TPSC226*016T0300      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 300                    | 1   | 0.606                  | 0.545 | 0.242 |
| TPSC226*016T0375      | C         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 375                    | 1   | 0.542                  | 0.487 | 0.217 |
| TPSD226*016T0500V     | D         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 500                    | 3   | 0.548                  | 0.493 | 0.219 |
| TPSD226*016T0700V     | D         | 22               | 16                | 85                     | 10                   | 125                       | 3.5           | 6         | 700                    | 3   | 0.463                  | 0.417 | 0.185 |
| TPSC336*016T0225      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 225                    | 1   | 0.699                  | 0.629 | 0.280 |
| TPSC336*016T0300      | C         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 300                    | 1   | 0.606                  | 0.545 | 0.242 |
| TPSD336*016T0200V     | D         | 33               | 16                | 85                     | 10                   | 125                       | 5.3           | 6         | 200                    | 3   | 0.866                  | 0.779 | 0.346 |
| TPSC476*016T0350      | C         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 350                    | 1   | 0.561                  | 0.505 | 0.224 |
| TPSD476*016T0200V     | D         | 47               | 16                | 85                     | 10                   | 125                       | 7.5           | 6         | 200                    | 3   | 0.866                  | 0.779 | 0.346 |
| TPSC686*016T0200      | C         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 200                    | 1   | 0.742                  | 0.667 | 0.297 |
| TPSD686*016T0150V     | D         | 68               | 16                | 85                     | 10                   | 125                       | 10.9          | 6         | 150                    | 3   | 1.000                  | 0.900 | 0.400 |
| TPSD107*016T0100V     | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 100                    | 3   | 1.225                  | 1.102 | 0.490 |
| TPSD107*016T0125V     | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 125                    | 3   | 1.095                  | 0.986 | 0.438 |
| TPSD107*016T0150V     | D         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 150                    | 3   | 1.000                  | 0.900 | 0.400 |
| TPSE107*016T0100V     | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 100                    | 3   | 1.285                  | 1.156 | 0.514 |
| TPSE107*016T0125V     | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 125                    | 3   | 1.149                  | 1.034 | 0.460 |
| TPSE107*016T0150V     | E         | 100              | 16                | 85                     | 10                   | 125                       | 16            | 6         | 150                    | 3   | 1.049                  | 0.944 | 0.420 |
| TPSE157*016T0100V     | E         | 150              | 16                | 85                     | 10                   | 125                       | 23            | 8         | 100                    | 3   | 1.285                  | 1.156 | 0.514 |



# TPS Automotive Range



## Low ESR - Automotive Product Range

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.   | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(µA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL | 100kHz RMS Current (A) |       |       |
|-------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----|------------------------|-------|-------|
|                   |              |                     |                         |                              |                            |                                 |                     |                 |                              |     | 25°C                   | 85°C  | 125°C |
| 20 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA105*020T3000  | A            | 1                   | 20                      | 85                           | 13                         | 125                             | 0.5                 | 4               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSA155*020T3000  | A            | 1.5                 | 20                      | 85                           | 13                         | 125                             | 0.5                 | 6               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSA225*020T3000  | A            | 2.2                 | 20                      | 85                           | 13                         | 125                             | 0.5                 | 6               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSB225*020T1700  | B            | 2.2                 | 20                      | 85                           | 13                         | 125                             | 0.5                 | 6               | 1700                         | 1   | 0.224                  | 0.201 | 0.089 |
| TPSA335*020T2500  | A            | 3.3                 | 20                      | 85                           | 13                         | 125                             | 0.7                 | 6               | 2500                         | 1   | 0.173                  | 0.156 | 0.069 |
| TPSB335*020T1300  | B            | 3.3                 | 20                      | 85                           | 13                         | 125                             | 0.7                 | 6               | 1300                         | 1   | 0.256                  | 0.230 | 0.102 |
| TPSA475*020T1800  | A            | 4.7                 | 20                      | 85                           | 13                         | 125                             | 0.9                 | 6               | 1800                         | 1   | 0.204                  | 0.184 | 0.082 |
| TPSB475*020T0750  | B            | 4.7                 | 20                      | 85                           | 13                         | 125                             | 0.9                 | 6               | 750                          | 1   | 0.337                  | 0.303 | 0.135 |
| TPSB475*020T1000  | B            | 4.7                 | 20                      | 85                           | 13                         | 125                             | 0.9                 | 6               | 1000                         | 1   | 0.292                  | 0.262 | 0.117 |
| TPSB685*020T0600  | B            | 6.8                 | 20                      | 85                           | 13                         | 125                             | 1.4                 | 6               | 600                          | 1   | 0.376                  | 0.339 | 0.151 |
| TPSB685*020T1000  | B            | 6.8                 | 20                      | 85                           | 13                         | 125                             | 1.4                 | 6               | 1000                         | 1   | 0.292                  | 0.262 | 0.117 |
| TPSC685*020T0700  | C            | 6.8                 | 20                      | 85                           | 13                         | 125                             | 1.4                 | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSB106*020T0500  | B            | 10                  | 20                      | 85                           | 13                         | 125                             | 2                   | 6               | 500                          | 1   | 0.412                  | 0.371 | 0.165 |
| TPSB106*020T1000  | B            | 10                  | 20                      | 85                           | 13                         | 125                             | 2                   | 6               | 1000                         | 1   | 0.292                  | 0.262 | 0.117 |
| TPSC106*020T0500  | C            | 10                  | 20                      | 85                           | 13                         | 125                             | 2                   | 6               | 500                          | 1   | 0.469                  | 0.422 | 0.188 |
| TPSC106*020T0700  | C            | 10                  | 20                      | 85                           | 13                         | 125                             | 2                   | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSB156*020T0500  | B            | 15                  | 20                      | 85                           | 13                         | 125                             | 3                   | 6               | 500                          | 1   | 0.412                  | 0.371 | 0.165 |
| TPSC156*020T0400  | C            | 15                  | 20                      | 85                           | 13                         | 125                             | 3                   | 6               | 400                          | 1   | 0.524                  | 0.472 | 0.210 |
| TPSC156*020T0450  | C            | 15                  | 20                      | 85                           | 13                         | 125                             | 3                   | 6               | 450                          | 1   | 0.494                  | 0.445 | 0.198 |
| TPSC226*020T0400  | C            | 22                  | 20                      | 85                           | 13                         | 125                             | 4.4                 | 6               | 400                          | 1   | 0.524                  | 0.472 | 0.210 |
| TPSD226*020T0200V | D            | 22                  | 20                      | 85                           | 13                         | 125                             | 4.4                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD226*020T0300V | D            | 22                  | 20                      | 85                           | 13                         | 125                             | 4.4                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSC336*020T0300  | C            | 33                  | 20                      | 85                           | 13                         | 125                             | 6.6                 | 6               | 300                          | 1   | 0.606                  | 0.545 | 0.242 |
| TPSD336*020T0160V | D            | 33                  | 20                      | 85                           | 13                         | 125                             | 6.6                 | 6               | 160                          | 3   | 0.968                  | 0.871 | 0.387 |
| TPSD336*020T0200V | D            | 33                  | 20                      | 85                           | 13                         | 125                             | 6.6                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD476*020T0200V | D            | 47                  | 20                      | 85                           | 13                         | 125                             | 9.4                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD686*020T0150V | D            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 150                          | 3   | 1.000                  | 0.900 | 0.400 |
| TPSD686*020T0200V | D            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD686*020T0300V | D            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSE686*020T0125V | E            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 125                          | 3   | 1.149                  | 1.034 | 0.460 |
| TPSE686*020T0150V | E            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 150                          | 3   | 1.049                  | 0.944 | 0.420 |
| TPSE686*020T0200V | E            | 68                  | 20                      | 85                           | 13                         | 125                             | 13.6                | 6               | 200                          | 3   | 0.908                  | 0.817 | 0.363 |
| TPSE107*020T0100V | E            | 100                 | 20                      | 85                           | 13                         | 125                             | 20                  | 6               | 100                          | 3   | 1.285                  | 1.156 | 0.514 |
| TPSE107*020T0150V | E            | 100                 | 20                      | 85                           | 13                         | 125                             | 20                  | 6               | 150                          | 3   | 1.049                  | 0.944 | 0.420 |
| TPSE107*020T0200V | E            | 100                 | 20                      | 85                           | 13                         | 125                             | 20                  | 6               | 200                          | 3   | 0.908                  | 0.817 | 0.363 |
| 25 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA474*025T7000  | A            | 0.47                | 25                      | 85                           | 17                         | 125                             | 0.5                 | 4               | 7000                         | 1   | 0.104                  | 0.093 | 0.041 |
| TPSA684*025T6000  | A            | 0.68                | 25                      | 85                           | 17                         | 125                             | 0.5                 | 4               | 6000                         | 1   | 0.112                  | 0.101 | 0.045 |
| TPSA105*025T4000  | A            | 1.0                 | 25                      | 85                           | 17                         | 125                             | 0.5                 | 4               | 4000                         | 1   | 0.137                  | 0.123 | 0.055 |
| TPSA155*025T3000  | A            | 1.5                 | 25                      | 85                           | 17                         | 125                             | 0.5                 | 6               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSA225*025T2500  | A            | 2.2                 | 25                      | 85                           | 17                         | 125                             | 0.6                 | 6               | 2500                         | 1   | 0.173                  | 0.156 | 0.069 |
| TPSB225*025T0900  | B            | 2.2                 | 25                      | 85                           | 17                         | 125                             | 0.6                 | 6               | 900                          | 1   | 0.307                  | 0.277 | 0.123 |
| TPSB225*025T1200  | B            | 2.2                 | 25                      | 85                           | 17                         | 125                             | 0.6                 | 6               | 1200                         | 1   | 0.266                  | 0.240 | 0.106 |
| TPSB225*025T2500  | B            | 2.2                 | 25                      | 85                           | 17                         | 125                             | 0.6                 | 6               | 2500                         | 1   | 0.184                  | 0.166 | 0.074 |
| TPSB335*025T0750  | B            | 3.3                 | 25                      | 85                           | 17                         | 125                             | 0.8                 | 6               | 750                          | 1   | 0.337                  | 0.303 | 0.135 |
| TPSB335*025T1500  | B            | 3.3                 | 25                      | 85                           | 17                         | 125                             | 0.8                 | 6               | 1500                         | 1   | 0.238                  | 0.214 | 0.095 |
| TPSB335*025T2000  | B            | 3.3                 | 25                      | 85                           | 17                         | 125                             | 0.8                 | 6               | 2000                         | 1   | 0.206                  | 0.186 | 0.082 |
| TPSB475*025T0700  | B            | 4.7                 | 25                      | 85                           | 17                         | 125                             | 1.2                 | 6               | 700                          | 1   | 0.348                  | 0.314 | 0.139 |
| TPSB475*025T0900  | B            | 4.7                 | 25                      | 85                           | 17                         | 125                             | 1.2                 | 6               | 900                          | 1   | 0.307                  | 0.277 | 0.123 |
| TPSC475*025T0700  | C            | 4.7                 | 25                      | 85                           | 17                         | 125                             | 1.2                 | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSB685*025T0700  | B            | 6.8                 | 25                      | 85                           | 17                         | 125                             | 1.7                 | 6               | 700                          | 1   | 0.348                  | 0.314 | 0.139 |
| TPSC685*025T0500  | C            | 6.8                 | 25                      | 85                           | 17                         | 125                             | 1.7                 | 6               | 500                          | 1   | 0.469                  | 0.422 | 0.188 |
| TPSC685*025T0600  | C            | 6.8                 | 25                      | 85                           | 17                         | 125                             | 1.7                 | 6               | 600                          | 1   | 0.428                  | 0.385 | 0.171 |
| TPSC685*025T0700  | C            | 6.8                 | 25                      | 85                           | 17                         | 125                             | 1.7                 | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSC106*025T0300  | C            | 10                  | 25                      | 85                           | 17                         | 125                             | 2.5                 | 6               | 300                          | 1   | 0.606                  | 0.545 | 0.242 |
| TPSC106*025T0500  | C            | 10                  | 25                      | 85                           | 17                         | 125                             | 2.5                 | 6               | 500                          | 1   | 0.469                  | 0.422 | 0.188 |
| TPSD106*025T0500V | D            | 10                  | 25                      | 85                           | 17                         | 125                             | 2.5                 | 6               | 500                          | 3   | 0.548                  | 0.493 | 0.219 |
| TPSC156*025T0220  | C            | 15                  | 25                      | 85                           | 17                         | 125                             | 3.8                 | 6               | 220                          | 1   | 0.707                  | 0.636 | 0.283 |
| TPSC156*025T0300  | C            | 15                  | 25                      | 85                           | 17                         | 125                             | 3.8                 | 6               | 300                          | 1   | 0.606                  | 0.545 | 0.242 |
| TPSD156*025T0300V | D            | 15                  | 25                      | 85                           | 17                         | 125                             | 3.8                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSC226*025T0275  | C            | 22                  | 25                      | 85                           | 17                         | 125                             | 5.5                 | 6               | 275                          | 1   | 0.632                  | 0.569 | 0.253 |
| TPSC226*025T0400  | C            | 22                  | 25                      | 85                           | 17                         | 125                             | 5.5                 | 6               | 400                          | 1   | 0.524                  | 0.472 | 0.210 |
| TPSD226*025T0200V | D            | 22                  | 25                      | 85                           | 17                         | 125                             | 5.5                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD226*025T0300V | D            | 22                  | 25                      | 85                           | 17                         | 125                             | 5.5                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSD336*025T0200V | D            | 33                  | 25                      | 85                           | 17                         | 125                             | 8.3                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD336*025T0300V | D            | 33                  | 25                      | 85                           | 17                         | 125                             | 8.3                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSD476*025T0125V | D            | 47                  | 25                      | 85                           | 17                         | 125                             | 11.8                | 6               | 125                          | 3   | 1.095                  | 0.986 | 0.438 |
| TPSD476*025T0150V | D            | 47                  | 25                      | 85                           | 17                         | 125                             | 11.8                | 6               | 150                          | 3   | 1.000                  | 0.900 | 0.400 |
| TPSD476*025T0250V | D            | 47                  | 25                      | 85                           | 17                         | 125                             | 11.8                | 6               | 250                          | 3   | 0.775                  | 0.697 | 0.310 |
| TPSE476*025T0125V | E            | 47                  | 25                      | 85                           | 17                         | 125                             | 11.8                | 6               | 125                          | 3   | 1.149                  | 1.034 | 0.460 |

# TPS Automotive Range



## Low ESR - Automotive Product Range

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.   | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>(µA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@ 100kHz | MSL | 100kHz RMS Current (A) |       |       |
|-------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-----------------|------------------------------|-----|------------------------|-------|-------|
|                   |              |                     |                         |                              |                            |                                 |                     |                 |                              |     | 25°C                   | 85°C  | 125°C |
| 35 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA334*035T6000  | A            | 0.33                | 35                      | 85                           | 23                         | 125                             | 0.5                 | 4               | 6000                         | 1   | 0.112                  | 0.101 | 0.045 |
| TPSA474*035T6000  | A            | 0.47                | 35                      | 85                           | 23                         | 125                             | 0.5                 | 4               | 6000                         | 1   | 0.112                  | 0.101 | 0.045 |
| TPSA684*035T6000  | A            | 0.68                | 35                      | 85                           | 23                         | 125                             | 0.5                 | 4               | 6000                         | 1   | 0.112                  | 0.101 | 0.045 |
| TPSA105*035T3000  | A            | 1                   | 35                      | 85                           | 23                         | 125                             | 0.5                 | 4               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSB105*035T2000  | B            | 1                   | 35                      | 85                           | 23                         | 125                             | 0.5                 | 4               | 2000                         | 1   | 0.206                  | 0.186 | 0.082 |
| TPSA155*035T3000  | A            | 1.5                 | 35                      | 85                           | 23                         | 125                             | 0.5                 | 6               | 3000                         | 1   | 0.158                  | 0.142 | 0.063 |
| TPSB155*035T2500  | B            | 1.5                 | 35                      | 85                           | 23                         | 125                             | 0.5                 | 6               | 2500                         | 1   | 0.184                  | 0.166 | 0.074 |
| TPSB225*035T0750  | B            | 2.2                 | 35                      | 85                           | 23                         | 125                             | 0.8                 | 6               | 750                          | 1   | 0.337                  | 0.303 | 0.135 |
| TPSB225*035T1500  | B            | 2.2                 | 35                      | 85                           | 23                         | 125                             | 0.8                 | 6               | 1500                         | 1   | 0.238                  | 0.214 | 0.095 |
| TPSB225*035T2000  | B            | 2.2                 | 35                      | 85                           | 23                         | 125                             | 0.8                 | 6               | 2000                         | 1   | 0.206                  | 0.186 | 0.082 |
| TPSC225*035T1000  | C            | 2.2                 | 35                      | 85                           | 23                         | 125                             | 0.8                 | 6               | 1000                         | 1   | 0.332                  | 0.298 | 0.133 |
| TPSB335*035T1000  | B            | 3.3                 | 35                      | 85                           | 23                         | 125                             | 1.2                 | 6               | 1000                         | 1   | 0.292                  | 0.262 | 0.117 |
| TPSC335*035T0700  | C            | 3.3                 | 35                      | 85                           | 23                         | 125                             | 1.2                 | 6               | 700                          | 1   | 0.396                  | 0.357 | 0.159 |
| TPSB475*035T0700  | B            | 4.7                 | 35                      | 85                           | 23                         | 125                             | 1.6                 | 6               | 700                          | 1   | 0.348                  | 0.314 | 0.139 |
| TPSB475*035T1500  | B            | 4.7                 | 35                      | 85                           | 23                         | 125                             | 1.6                 | 6               | 1500                         | 1   | 0.238                  | 0.214 | 0.095 |
| TPSC475*035T0600  | C            | 4.7                 | 35                      | 85                           | 23                         | 125                             | 1.6                 | 6               | 600                          | 1   | 0.428                  | 0.385 | 0.171 |
| TPSD475*035T0700V | D            | 4.7                 | 35                      | 85                           | 23                         | 125                             | 1.6                 | 6               | 700                          | 3   | 0.463                  | 0.417 | 0.185 |
| TPSC685*035T0350  | C            | 6.8                 | 35                      | 85                           | 23                         | 125                             | 2.4                 | 6               | 350                          | 1   | 0.561                  | 0.505 | 0.224 |
| TPSD685*035T0400V | D            | 6.8                 | 35                      | 85                           | 23                         | 125                             | 2.4                 | 6               | 400                          | 3   | 0.612                  | 0.551 | 0.245 |
| TPSD685*035T0500V | D            | 6.8                 | 35                      | 85                           | 23                         | 125                             | 2.4                 | 6               | 500                          | 3   | 0.548                  | 0.493 | 0.219 |
| TPSC106*035T0600  | C            | 10                  | 35                      | 85                           | 23                         | 125                             | 3.5                 | 6               | 600                          | 1   | 0.428                  | 0.385 | 0.171 |
| TPSD106*035T0300V | D            | 10                  | 35                      | 85                           | 23                         | 125                             | 3.5                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSD156*035T0300V | D            | 15                  | 35                      | 85                           | 23                         | 125                             | 5.3                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSD226*035T0200V | D            | 22                  | 35                      | 85                           | 23                         | 125                             | 7.7                 | 6               | 200                          | 3   | 0.866                  | 0.779 | 0.346 |
| TPSD226*035T0300V | D            | 22                  | 35                      | 85                           | 23                         | 125                             | 7.7                 | 6               | 300                          | 3   | 0.707                  | 0.636 | 0.283 |
| TPSD226*035T0400V | D            | 22                  | 35                      | 85                           | 23                         | 125                             | 7.7                 | 6               | 400                          | 3   | 0.612                  | 0.551 | 0.245 |
| TPSE226*035T0200V | E            | 22                  | 35                      | 85                           | 23                         | 125                             | 7.7                 | 6               | 200                          | 3   | 0.908                  | 0.817 | 0.363 |
| TPSE226*035T0300V | E            | 22                  | 35                      | 85                           | 23                         | 125                             | 7.7                 | 6               | 300                          | 3   | 0.742                  | 0.667 | 0.297 |
| TPSE336*035T0250V | E            | 33                  | 35                      | 85                           | 23                         | 125                             | 11.6                | 6               | 250                          | 3   | 0.812                  | 0.731 | 0.325 |
| TPSE336*035T0300V | E            | 33                  | 35                      | 85                           | 23                         | 125                             | 11.6                | 6               | 300                          | 3   | 0.742                  | 0.667 | 0.297 |
| 50 Volt @ 85°C    |              |                     |                         |                              |                            |                                 |                     |                 |                              |     |                        |       |       |
| TPSA224*050T7000  | A            | 0.22                | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 7000                         | 1   | 0.104                  | 0.093 | 0.041 |
| TPSA334*050T7000  | A            | 0.33                | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 7000                         | 1   | 0.104                  | 0.093 | 0.041 |
| TPSA474*050T6500  | A            | 0.47                | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 6500                         | 1   | 0.107                  | 0.097 | 0.043 |
| TPSB474*050T6000  | B            | 0.47                | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 6000                         | 1   | 0.119                  | 0.107 | 0.048 |
| TPSB684*050T4000  | B            | 0.68                | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 4000                         | 1   | 0.146                  | 0.131 | 0.058 |
| TPSB105*050T3000  | B            | 1                   | 50                      | 85                           | 33                         | 125                             | 0.5                 | 6               | 3000                         | 1   | 0.168                  | 0.151 | 0.067 |
| TPSC105*050T2500  | C            | 1                   | 50                      | 85                           | 33                         | 125                             | 0.5                 | 4               | 2500                         | 1   | 0.210                  | 0.189 | 0.084 |
| TPSC155*050T1500  | C            | 1.5                 | 50                      | 85                           | 33                         | 125                             | 0.8                 | 6               | 1500                         | 1   | 0.271                  | 0.244 | 0.108 |
| TPSC155*050T2000  | C            | 1.5                 | 50                      | 85                           | 33                         | 125                             | 0.8                 | 6               | 2000                         | 1   | 0.235                  | 0.211 | 0.094 |
| TPSC225*050T1500  | C            | 2.2                 | 50                      | 85                           | 33                         | 125                             | 1.1                 | 8               | 1500                         | 1   | 0.271                  | 0.244 | 0.108 |
| TPSD225*050T1200V | D            | 2.2                 | 50                      | 85                           | 33                         | 125                             | 1.1                 | 6               | 1200                         | 3   | 0.354                  | 0.318 | 0.141 |
| TPSC335*050T1000  | C            | 3.3                 | 50                      | 85                           | 33                         | 125                             | 1.6                 | 6               | 1000                         | 1   | 0.332                  | 0.298 | 0.133 |
| TPSD335*050T0800V | D            | 3.3                 | 50                      | 85                           | 33                         | 125                             | 1.7                 | 6               | 800                          | 3   | 0.433                  | 0.390 | 0.173 |
| TPSC475*050T0800  | C            | 4.7                 | 50                      | 85                           | 33                         | 125                             | 2.4                 | 6               | 800                          | 1   | 0.371                  | 0.334 | 0.148 |
| TPSD475*050T0250V | D            | 4.7                 | 50                      | 85                           | 33                         | 125                             | 2.4                 | 6               | 250                          | 1   | 0.775                  | 0.697 | 0.310 |
| TPSD475*050T0500V | D            | 4.7                 | 50                      | 85                           | 33                         | 125                             | 2.4                 | 6               | 500                          | 3   | 0.548                  | 0.493 | 0.219 |
| TPSD475*050T0700V | D            | 4.7                 | 50                      | 85                           | 33                         | 125                             | 2.4                 | 6               | 700                          | 3   | 0.463                  | 0.417 | 0.185 |
| TPSD685*050T0500V | D            | 6.8                 | 50                      | 85                           | 33                         | 125                             | 3.4                 | 6               | 500                          | 3   | 0.548                  | 0.493 | 0.219 |
| TPSD685*050T0600V | D            | 6.8                 | 50                      | 85                           | 33                         | 125                             | 3.4                 | 6               | 600                          | 3   | 0.500                  | 0.450 | 0.200 |
| TPSD106*050T0500V | D            | 10                  | 50                      | 85                           | 33                         | 125                             | 5                   | 6               | 500                          | 3   | 0.548                  | 0.493 | 0.219 |
| TPSE106*050T0250V | E            | 10                  | 50                      | 85                           | 33                         | 125                             | 5                   | 6               | 250                          | 3   | 0.812                  | 0.731 | 0.325 |
| TPSE106*050T0300V | E            | 10                  | 50                      | 85                           | 33                         | 125                             | 5                   | 6               | 300                          | 3   | 0.742                  | 0.667 | 0.297 |
| TPSE106*050T0400V | E            | 10                  | 50                      | 85                           | 33                         | 125                             | 5                   | 6               | 400                          | 3   | 0.642                  | 0.578 | 0.257 |
| TPSE106*050T0500V | E            | 10                  | 50                      | 85                           | 33                         | 125                             | 5                   | 6               | 500                          | 3   | 0.574                  | 0.517 | 0.230 |
| TPSE156*050T0250V | E            | 15                  | 50                      | 85                           | 33                         | 125                             | 7.5                 | 6               | 250                          | 3   | 0.812                  | 0.731 | 0.325 |

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

\*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version – see "HOW TO ORDER".

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts.

DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 214.

**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**



# TPS Automotive Range



## Low ESR - Automotive Product Range

### QUALIFICATION TABLE

| TEST                  | TPS automotive series (Temperature range -55°C to +125°C)                                                                                                                                                                                                                                      |               |               |                    |                              |           |            |            |            |            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------------|------------------------------|-----------|------------|------------|------------|------------|
|                       | Condition                                                                                                                                                                                                                                                                                      |               |               | Characteristics    |                              |           |            |            |            |            |
| Endurance             | Determine after application of rated voltage for 2000 +48/-0 hours at 85±2°C and then leaving 1-2 hours at room temperature. Also determine of 125°C temperature, category voltage for 2000 +48/-0 hours and then leaving 1-2 hours at room temperature. Power supply impedance to be ≤0.1Ω/V. |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 1.25 x initial limit         |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Storage Life          | 125°C, 0V, 2000h                                                                                                                                                                                                                                                                               |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 1.25 x initial limit         |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Humidity              | Determine after storage without applied voltage at 65±2°C and 95±2% relative humidity for 500 hours and then recovery 1-2 hours at room temperature.                                                                                                                                           |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 1.5 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | 1.2 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Biased Humidity       | Determine after leaving for 1000 hours at 85±2°C, 85% relative humidity and rated voltage and then recovery 1-2 hours at room temperature.                                                                                                                                                     |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | 2 x initial limit            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±10% of initial value |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | 1.2 x initial limit          |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |
| Temperature Stability | Step                                                                                                                                                                                                                                                                                           | Temperature°C | Duration(min) |                    | +20°C                        | -55°C     | +20°C      | +85°C      | +125°C     | +20°C      |
|                       | 1                                                                                                                                                                                                                                                                                              | +20±2         | 15            | DCL                | IL*                          | n/a       | IL*        | 10 x IL*   | 12.5 x IL* | IL*        |
|                       | 2                                                                                                                                                                                                                                                                                              | -55+0/-3      | 15            | ΔC/C               | n/a                          | +0/-10%   | ±5%        | +10/-0%    | +12/-0%    | ±5%        |
|                       | 3                                                                                                                                                                                                                                                                                              | +20±2         | 15            | DF                 | IL*                          | 1.5 x IL* | IL*        | 1.5 x IL*  | 2 x IL*    | IL*        |
|                       | 4                                                                                                                                                                                                                                                                                              | +85+3/-0      | 15            | ESR                | 1.25 x IL*                   | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* |
|                       | 5                                                                                                                                                                                                                                                                                              | +125+3/-0     | 15            |                    |                              |           |            |            |            |            |
| Surge Voltage         | Test temperature: 125°C±3/0°C<br>Test voltage: Category voltage at 125°C<br>Surge voltage: 1.3 x category voltage at 125°C<br>Series protection resistance 1000±100Ω<br>Discharge resistance: 1000Ω<br>Number of cycles: 1000x<br>Cycle duration: 6 min; 30 sec charge, 5 min 30 sec discharge |               |               | Visual examination | no visible damage            |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DCL                | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ΔC/C               | within ±5% of initial value  |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | DF                 | initial limit                |           |            |            |            |            |
|                       |                                                                                                                                                                                                                                                                                                |               |               | ESR                | 1.25 x initial limit         |           |            |            |            |            |

\*Initial Limit

# Mouser Electronics

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## AVX:

|                                  |                                  |                                  |                                  |                                  |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
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| <a href="#">TPSE336M035R0100</a> | <a href="#">TPSE337K010R0050</a> | <a href="#">TPSE337M010R0050</a> | <a href="#">TPSE337M010R0100</a> | <a href="#">TPSE476K035R0250</a> |
| <a href="#">TPSE477K006R0045</a> | <a href="#">TPSE477K010R0045</a> | <a href="#">TPSE477K010R0100</a> | <a href="#">TPSE477M010R0045</a> | <a href="#">TPSE477M010R0100</a> |
| <a href="#">TPSE686K025R0200</a> | <a href="#">TPSE686M020R0125</a> | <a href="#">TPSE686M020R0150</a> | <a href="#">TPSE686M025R0125</a> | <a href="#">TPSV227M016R0050</a> |
| <a href="#">TPSV227M016R0075</a> | <a href="#">TPSV337M010R0100</a> | <a href="#">TPSV687K006R0035</a> | <a href="#">TPSW336K016R0175</a> | <a href="#">TPSW476K010R0125</a> |
| <a href="#">TPSW476K010R0150</a> | <a href="#">TPSW686K006R0125</a> | <a href="#">TPSY157K010R0100</a> | <a href="#">TPSY686K016R0200</a> | <a href="#">TPSD107M020R0085</a> |
| <a href="#">TPSD156K035R0100</a> | <a href="#">TPSD156M025R0100</a> | <a href="#">TPSD156M035R0300</a> | <a href="#">TPSD157K006R0050</a> | <a href="#">TPSD157K010R0085</a> |
| <a href="#">TPSD157M006R0050</a> | <a href="#">TPSD157M016R0100</a> | <a href="#">TPSD157M016R0125</a> | <a href="#">TPSD157M016R0150</a> | <a href="#">TPSD226K025R0100</a> |
| <a href="#">TPSD226M025R0100</a> | <a href="#">TPSD227K010R0150</a> | <a href="#">TPSD227M010R0050</a> | <a href="#">TPSD336K035R0300</a> | <a href="#">TPSD336M025R0300</a> |
| <a href="#">TPSD336M035R0300</a> | <a href="#">TPSD337K006R0045</a> | <a href="#">TPSD337K010R0100</a> | <a href="#">TPSD337K010R0150</a> | <a href="#">TPSD475M050R0700</a> |
| <a href="#">TPSD686M010R0100</a> | <a href="#">TPSD686M016R0070</a> | <a href="#">TPSE106K050R0400</a> | <a href="#">TPSE107K016R0100</a> | <a href="#">TPSE107K016R0150</a> |
| <a href="#">TPSE107K020R0150</a> | <a href="#">TPSE107M016R0055</a> | <a href="#">TPSE226K035R0300</a> | <a href="#">TPSA105K035R3000</a> | <a href="#">TPSA105M035R3000</a> |
| <a href="#">TPSA106K010R0900</a> | <a href="#">TPSA106K010R1800</a> | <a href="#">TPSA226M010R0900</a> | <a href="#">TPSA335M016R3500</a> | <a href="#">TPSA475K020R1800</a> |
| <a href="#">TPSA476M004R0500</a> | <a href="#">TPSA684K035R6000</a> | <a href="#">TPSB106M016R0800</a> | <a href="#">TPSB106M020R1000</a> | <a href="#">TPSB156K016R0800</a> |
| <a href="#">TPSB225K025R2500</a> | <a href="#">TPSB225K035R2000</a> | <a href="#">TPSB226K016R0600</a> | <a href="#">TPSB226M016R0600</a> | <a href="#">TPSB476K010R0650</a> |
| <a href="#">TPSB476M010R0500</a> | <a href="#">TPSC107K006R0150</a> | <a href="#">TPSC107M010R0100</a> | <a href="#">TPSC226K016R0375</a> | <a href="#">TPSC227K006R0070</a> |
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| <a href="#">TPSC476M010R0350</a> | <a href="#">TPSC685M025R0600</a> | <a href="#">TPSD106M035R0125</a> | <a href="#">TPSD107K016R0125</a> | <a href="#">TPSD107M010R0050</a> |
| <a href="#">TPSD107M010R0080</a> | <a href="#">TPSD107M010R0100</a> | <a href="#">TPSD107M016R0060</a> | <a href="#">TPSA156M006R1500</a> | <a href="#">TPSA225K010R1800</a> |
| <a href="#">TPSA225K016R1800</a> | <a href="#">TPSA225M010R1800</a> | <a href="#">TPSA335M020R2500</a> | <a href="#">TPSA336K006R0600</a> | <a href="#">TPSA475M020R1800</a> |