

# TPS Series

## Low ESR



- 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

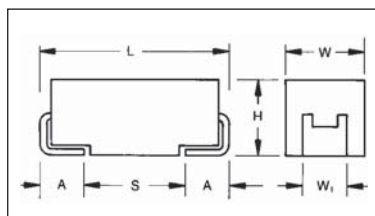


LEAD-FREE COMPATIBLE COMPONENT

### 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>t</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)                    | 2.6 (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.               | 1.0±0.1 (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.               | 1.0±0.1 (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)                    | 3.45 ±0.30 (0.136 ±0.012)       | 3.10 (0.120)                 | 1.40 (0.055)                    | 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) |

W<sub>t</sub> dimension applies to the termination width for A dimensional area only.



For part marking see page 132

### 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<br>063 = 63Vdc | Packaging<br>R = 7" T/R<br>(Lead Free since production date 1/1/04)<br>S = 13" T/R<br>(Lead Free since production date 1/1/04)<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<br>(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 | 63 |
| Category Voltage (V <sub>C</sub> ) | ≤ +125°C:                                                                                    | 1.7 | 2.7 | 4   | 7  | 10 | 13 | 17 | 23 | 33 | 42 |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:                                                                                     | 3.3 | 5.2 | 8   | 13 | 20 | 26 | 32 | 46 | 65 | 82 |
| Surge Voltage (V <sub>S</sub> )    | ≤ +125°C:                                                                                    | 2.2 | 3.4 | 5   | 8  | 13 | 16 | 20 | 28 | 40 | 50 |
| 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                                                               |     |     |     |    |    |    |    |    |    |    |



### CAPACITANCE AND RATED VOLTAGE, VR (VOLTAGE CODE) 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)                 | 63V     |
| 0.15        | 154  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     |                                                    |                                                | A(9000)                 |         |
| 0.22        | 224  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     |                                                    | A(6000)                                        | A(7000)                 |         |
| 0.33        | 334  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     |                                                    | A(6000)                                        |                         |         |
| 0.47        | 474  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     | A(7000)                                            | A(6000)<br>B(4000)                             | C(2300)                 |         |
| 0.68        | 684  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     | A(6000)                                            | A(6000)                                        |                         |         |
| 1           | 105  |                                            |                                            |                                                                         | R(9000)                                                                                                                   |                                                                                               | A(3000), R(6000)<br>S(6000), T(2000)                | R(2500,4000)                                       | A(3000)<br>B(2000)                             | C(2500)                 |         |
| 1.5         | 155  |                                            |                                            |                                                                         |                                                                                                                           |                                                                                               |                                                     | A(3000)<br>B(1800)                                 | B(2500)                                        | C(1500,2000)            |         |
| 2.2         | 225  |                                            |                                            | R(7000)                                                                 | A(1800)                                                                                                                   | A(1800,3500)<br>T(2000)                                                                       | A(3000)                                             | B(900,1200,2500)                                   | A(1500), B(750,<br>1500,2000), C(1000)         | D(1200)                 |         |
| 3.3         | 335  |                                            |                                            |                                                                         | T(1500)                                                                                                                   | A(3500)                                                                                       | A(2500)<br>B(1300)                                  | A(1000,1500)<br>B(750,1500,2000)                   | B(1000)<br>C(700)                              | D(800)                  |         |
| 4.7         | 475  |                                            |                                            | S(4000)                                                                 | A(1400)<br>R(3000,5000)                                                                                                   | A(2000)<br>B(800,1500)                                                                        | A(1800)<br>B(750,1000)                              | B(700,900,1500)                                    | B(700,1500)<br>C(600), D(700)                  | D(300,500,700)          |         |
| 6.8         | 685  |                                            |                                            | A(1800)                                                                 | A(1800)<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)<br>R(1000,1500,3000)<br>T(1000)                                 | A(900,1800)<br>P(2000) <sup>M</sup><br>T(1000,2000)                                                                       | B(500,800), C(500)<br>T(800,1000)<br>W(500,600)                                               | B(500,1000)<br>C(500,700)<br>W(500)                 | B(1800)<br>C(300,500)                              | D(125,300)<br>E(200), Y(250)                   | E(400,500)              | E(500)* |
| 15          | 156  |                                            |                                            | A(700,1500)                                                             | A(1000)<br>B(450,600)<br>T(1200)                                                                                          | B(500,800)                                                                                    | 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>S(900)                                      | A(900)<br>B(400,500,700)<br>C(300), T(800)                                                                                | B(400,600)<br>C(150,250,300,375)<br>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)                                | 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)<br>C(300), T(1200)                  | A(800)<br>B(250,350,500)<br>D(100)                                      | B(250,350,500,650)<br>C(200,350)<br>W(200)<br>Y(125,150,250)                                                              | C(110,350)<br>D(80,100,150,200)<br>E(70,125,150,<br>X(180), Y(250)                            | D(75,100,200)<br>E(80,100,125)<br>200,250)          | D(125,150,250)<br>V(150,200)                       | E(200,250)                                     |                         |         |
| 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)             | E(125,200)<br>V(80,95,150,200)                     | V(150,200) <sup>M</sup>                        |                         |         |
| 100         | 107  | B(200)                                     | B(200,250,<br>350,500)<br>W(100)           | B(250,400)<br>C(75,150)<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) | 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)                          | D(50,85,100), E(100)<br>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)                                               |                                                    |                                                |                         |         |
| 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(60,100,125,150)<br>V(100), Y(100,150) | D(50,65,100,150)<br>E(40,50,60,100)<br>V(40,60,100)                                                                       |                                                                                               |                                                     |                                                    |                                                |                         |         |
| 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>          |                                                                         |                                                                                                                           |                                                                                               |                                                     |                                                    |                                                |                         |         |

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

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) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|------------------------------------|--------------|---------------------|-------------------------|---------------------|-----------------|-----------------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                    |              |                     |                         |                     |                 |                             | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| 2.5 Volt @ 85°C (1.7 Volt @ 125°C) |              |                     |                         |                     |                 |                             |                                   |       |       |                                   |       |       |
| TPSB107*002#0200                   | B            | 100                 | 2.5                     | 5                   | 6               | 200                         | 0.652                             | 0.587 | 0.261 | 0.130                             | 0.117 | 0.052 |
| TPSB157*002#0150                   | B            | 150                 | 2.5                     | 3                   | 10              | 150                         | 0.753                             | 0.677 | 0.301 | 0.113                             | 0.102 | 0.045 |
| TPSB227*002#0150                   | B            | 220                 | 2.5                     | 4.4                 | 16              | 150                         | 0.753                             | 0.677 | 0.301 | 0.113                             | 0.102 | 0.045 |
| TPSB227*002#0200                   | B            | 220                 | 2.5                     | 4.4                 | 16              | 200                         | 0.652                             | 0.587 | 0.261 | 0.130                             | 0.117 | 0.052 |
| TPSB227*002#0600                   | B            | 220                 | 2.5                     | 4.4                 | 16              | 600                         | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSD227*002#0045                   | D            | 220                 | 2.5                     | 4.4                 | 8               | 45                          | 1.826                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSY337*002#0040                   | Y            | 330                 | 2.5                     | 8.2                 | 8               | 40                          | 1.768                             | 1.591 | 0.707 | 0.071                             | 0.064 | 0.028 |
| TPSD477*002#0035                   | D            | 470                 | 2.5                     | 11.6                | 8               | 35                          | 2.070                             | 1.863 | 0.828 | 0.072                             | 0.065 | 0.029 |
| TPSF477*002#0200                   | F            | 470                 | 2.5                     | 11.8                | 12              | 200                         | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSY477*002#0100                   | Y            | 470                 | 2.5                     | 11                  | 12              | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSD687*002#0035                   | D            | 680                 | 2.5                     | 17                  | 16              | 35                          | 2.070                             | 1.863 | 0.828 | 0.072                             | 0.065 | 0.029 |
| TPSD687*002#0050                   | D            | 680                 | 2.5                     | 17                  | 16              | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSE687*002#0035                   | E            | 680                 | 2.5                     | 17                  | 10              | 35                          | 2.171                             | 1.954 | 0.868 | 0.076                             | 0.068 | 0.030 |
| TPSE687*002#0050                   | E            | 680                 | 2.5                     | 17                  | 10              | 50                          | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSY687*002#0100                   | Y            | 680                 | 2.5                     | 17                  | 12              | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSE108*002#0030                   | E            | 1000                | 2.5                     | 20                  | 14              | 30                          | 2.345                             | 2.111 | 0.938 | 0.070                             | 0.063 | 0.028 |
| TPSE108*002#0040                   | E            | 1000                | 2.5                     | 20                  | 14              | 40                          | 2.031                             | 1.828 | 0.812 | 0.081                             | 0.073 | 0.032 |
| TPSY108M002#0100                   | Y            | 1000                | 2.5                     | 25                  | 30              | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSE158*002#0050                   | E            | 1500                | 2.5                     | 37.5                | 20              | 50                          | 1.817                             | 1.635 | 0.727 | 0.001                             | 0.082 | 0.036 |
| TPSD158*002#0100                   | D            | 1500                | 2.5                     | 37.5                | 60              | 100                         | 1.125                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSV158M002#0030                   | V            | 1500                | 2.5                     | 30                  | 20              | 30                          | 2.887                             | 2.598 | 1.155 | 0.087                             | 0.078 | 0.035 |
| TPSV158M002#0040                   | V            | 1500                | 2.5                     | 30                  | 20              | 40                          | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| 4 Volt @ 85°C (2.7 Volt @ 125°C)   |              |                     |                         |                     |                 |                             |                                   |       |       |                                   |       |       |
| TPSR106*004#3000                   | R            | 10                  | 4                       | 0.5                 | 6               | 3000                        | 0.135                             | 0.122 | 0.054 | 0.406                             | 0.366 | 0.162 |
| TPSA476*004#0500                   | A            | 47                  | 4                       | 1.9                 | 8               | 500                         | 0.387                             | 0.349 | 0.155 | 0.194                             | 0.174 | 0.077 |
| TPSB107*004#0200                   | B            | 100                 | 4                       | 4                   | 8               | 200                         | 0.652                             | 0.587 | 0.261 | 0.130                             | 0.117 | 0.052 |
| TPSB107*004#0250                   | B            | 100                 | 4                       | 4                   | 8               | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB107*004#0350                   | B            | 100                 | 4                       | 4                   | 8               | 350                         | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB107*004#0500                   | B            | 100                 | 4                       | 4                   | 8               | 500                         | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSW107*004#0100                   | W            | 100                 | 4                       | 4                   | 6               | 100                         | 0.949                             | 0.854 | 0.379 | 0.095                             | 0.085 | 0.038 |
| TPSB157*004#0250                   | B            | 150                 | 4                       | 6                   | 10              | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSC157*004#0070                   | C            | 150                 | 4                       | 6                   | 6               | 70                          | 1.254                             | 1.128 | 0.501 | 0.088                             | 0.079 | 0.035 |
| TPSC157*004#0080                   | C            | 150                 | 4                       | 6                   | 6               | 80                          | 1.173                             | 1.055 | 0.469 | 0.094                             | 0.084 | 0.038 |
| TPSD227*004#0040                   | D            | 220                 | 4                       | 8.8                 | 8               | 40                          | 1.936                             | 1.743 | 0.775 | 0.077                             | 0.070 | 0.031 |
| TPSD227*004#0050                   | D            | 220                 | 4                       | 8.8                 | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD227*004#0100                   | D            | 220                 | 4                       | 8.8                 | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSY227*004#0040                   | Y            | 220                 | 4                       | 8.8                 | 8               | 40                          | 1.768                             | 1.591 | 0.707 | 0.071                             | 0.064 | 0.028 |
| TPSY227*004#0050                   | Y            | 220                 | 4                       | 8.8                 | 8               | 50                          | 1.581                             | 1.423 | 0.632 | 0.095                             | 0.085 | 0.038 |
| TPSY227*004#0075                   | Y            | 220                 | 4                       | 8.8                 | 8               | 75                          | 1.291                             | 1.162 | 0.516 | 0.097                             | 0.087 | 0.039 |
| TPSC337*004#0100                   | C            | 330                 | 4                       | 13.2                | 8               | 100                         | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSD337*004#0035                   | D            | 330                 | 4                       | 13.2                | 8               | 35                          | 2.070                             | 1.863 | 0.828 | 0.072                             | 0.065 | 0.029 |
| TPSD337*004#0045                   | D            | 330                 | 4                       | 13.2                | 8               | 45                          | 1.826                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSD337*004#0100                   | D            | 330                 | 4                       | 13.2                | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSF337*004#0200                   | F            | 330                 | 4                       | 13.2                | 10              | 200                         | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSX337*004#0100                   | X            | 330                 | 4                       | 13.2                | 8               | 100                         | 1.000                             | 0.900 | 0.400 | 0.100                             | 0.090 | 0.040 |
| TPSD477*004#0045                   | D            | 470                 | 4                       | 18.8                | 12              | 45                          | 1.826                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSD477*004#0100                   | D            | 470                 | 4                       | 18.8                | 12              | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSE477*004#0035                   | E            | 470                 | 4                       | 18.8                | 12              | 35                          | 2.171                             | 1.954 | 0.868 | 0.076                             | 0.068 | 0.030 |
| TPSE477*004#0045                   | E            | 470                 | 4                       | 18.8                | 12              | 45                          | 1.915                             | 1.723 | 0.766 | 0.086                             | 0.078 | 0.034 |
| TPSE477*004#0100                   | E            | 470                 | 4                       | 18.8                | 12              | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSD687*004#0045                   | D            | 680                 | 4                       | 27.2                | 14              | 45                          | 1.915                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSD687*004#0060                   | D            | 680                 | 4                       | 27.2                | 14              | 60                          | 1.581                             | 1.423 | 0.632 | 0.095                             | 0.085 | 0.038 |
| TPSD687*004#0100                   | D            | 680                 | 4                       | 27.2                | 14              | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSE687*004#0040                   | E            | 680                 | 4                       | 27.2                | 10              | 40                          | 2.031                             | 1.828 | 0.812 | 0.081                             | 0.073 | 0.032 |
| TPSE687*004#0060                   | E            | 680                 | 4                       | 27.2                | 10              | 60                          | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE687*004#0100                   | E            | 680                 | 4                       | 27.2                | 10              | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE108*004#0040                   | E            | 1000                | 4                       | 40                  | 14              | 40                          | 2.031                             | 1.828 | 0.812 | 0.081                             | 0.073 | 0.032 |
| TPSE108*004#0060                   | E            | 1000                | 4                       | 40                  | 14              | 60                          | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSV108*004#0025                   | V            | 1000                | 4                       | 40                  | 16              | 25                          | 3.162                             | 2.846 | 1.265 | 0.079                             | 0.071 | 0.032 |
| TPSV108*004#0035                   | V            | 1000                | 4                       | 40                  | 16              | 35                          | 2.673                             | 2.405 | 1.069 | 0.094                             | 0.084 | 0.037 |
| TPSV108*004#0040                   | V            | 1000                | 4                       | 40                  | 16              | 40                          | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV108*004#0050                   | V            | 1000                | 4                       | 40                  | 16              | 50                          | 2.236                             | 2.012 | 0.894 | 0.112                             | 0.101 | 0.045 |
| TPSE158*004#0050                   | E            | 1500                | 4                       | 60                  | 30              | 50                          | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE158*004#0075                   | E            | 1500                | 4                       | 60                  | 30              | 75                          | 1.483                             | 1.335 | 0.593 | 0.111                             | 0.100 | 0.044 |
| TPSV158M004#0050                   | V            | 1500                | 4                       | 60                  | 30              | 50                          | 2.236                             | 2.012 | 0.894 | 0.112                             | 0.101 | 0.045 |
| TPSV158M004#0075                   | V            | 1500                | 4                       | 60                  | 30              | 75                          | 1.826                             | 1.643 | 0.730 | 0.137                             | 0.123 | 0.055 |

\* Insert K for  $\pm 10\%$  and M for  $\pm 20\%$  Capacitance Tolerance

All technical data relates to an ambient temperature of  $+25^{\circ}\text{C}$ . 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.

TPS series is MSL level 1 according to J-STD-020C.#

#### Standard Plating

# Gold Plating

# Tin Lead Plating

# Tin Lead Plating

– Insert R for 7" reel and S for 13" reel  
– Insert A for 7" reel and B for 13" reel  
– Insert H for 7" reel (contact manufacturer)  
– Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.                  | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|----------------------------------|--------------|---------------------|-------------------------|---------------------|-----------------|-----------------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                  |              |                     |                         |                     |                 |                             | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| 6.3 Volt @ 85°C (4 Volt @ 125°C) |              |                     |                         |                     |                 |                             |                                   |       |       |                                   |       |       |
| TPSR225*006#7000                 | R            | 2.2                 | 6.3                     | 0.5                 | 6               | 7000                        | 0.089                             | 0.080 | 0.035 | 0.620                             | 0.558 | 0.248 |
| TPSS475*006#4000                 | S            | 4.7                 | 6.3                     | 0.5                 | 6               | 4000                        | 0.127                             | 0.115 | 0.051 | 0.510                             | 0.459 | 0.204 |
| TPSA685*006#1800                 | A            | 6.8                 | 6.3                     | 0.5                 | 6               | 1800                        | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPSA106*006#1500                 | A            | 10                  | 6.3                     | 0.6                 | 6               | 1500                        | 0.224                             | 0.201 | 0.089 | 0.335                             | 0.302 | 0.134 |
| TPSR106*006#1000                 | R            | 10                  | 6.3                     | 0.6                 | 8               | 1000                        | 0.235                             | 0.211 | 0.094 | 0.235                             | 0.211 | 0.094 |
| TPSR106*006#1500                 | R            | 10                  | 6.3                     | 0.6                 | 8               | 1500                        | 0.191                             | 0.172 | 0.077 | 0.287                             | 0.259 | 0.115 |
| TPSR106*006#3000                 | R            | 10                  | 6.3                     | 0.6                 | 8               | 3000                        | 0.135                             | 0.122 | 0.054 | 0.406                             | 0.366 | 0.162 |
| TPST106*006#1000                 | T            | 10                  | 6.3                     | 0.6                 | 6               | 1000                        | 0.283                             | 0.255 | 0.113 | 0.283                             | 0.255 | 0.113 |
| TPSA156*006#0700                 | A            | 15                  | 6.3                     | 0.9                 | 6               | 700                         | 0.327                             | 0.295 | 0.131 | 0.229                             | 0.206 | 0.092 |
| TPSA156*006#1500                 | A            | 15                  | 6.3                     | 0.9                 | 6               | 1500                        | 0.224                             | 0.201 | 0.089 | 0.335                             | 0.302 | 0.134 |
| TPSA226*006#0500                 | A            | 22                  | 6.3                     | 1.4                 | 6               | 500                         | 0.387                             | 0.349 | 0.155 | 0.194                             | 0.174 | 0.077 |
| TPSA226*006#0900                 | A            | 22                  | 6.3                     | 1.4                 | 6               | 900                         | 0.289                             | 0.260 | 0.115 | 0.260                             | 0.234 | 0.104 |
| TPSB226*006#0375                 | B            | 22                  | 6.3                     | 1.4                 | 6               | 375                         | 0.476                             | 0.428 | 0.190 | 0.179                             | 0.161 | 0.071 |
| TPSB226*006#0600                 | B            | 22                  | 6.3                     | 1.4                 | 6               | 600                         | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSS226*006#0900                 | S            | 22                  | 6.3                     | 1.4                 | 8               | 900                         | 0.269                             | 0.242 | 0.107 | 0.242                             | 0.218 | 0.097 |
| TPSA336*006#0600                 | A            | 33                  | 6.3                     | 2.1                 | 8               | 600                         | 0.354                             | 0.318 | 0.141 | 0.212                             | 0.191 | 0.085 |
| TPSB336*006#0250                 | B            | 33                  | 6.3                     | 2.1                 | 6               | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB336*006#0350                 | B            | 33                  | 6.3                     | 2.1                 | 6               | 350                         | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB336*006#0450                 | B            | 33                  | 6.3                     | 2.1                 | 6               | 450                         | 0.435                             | 0.391 | 0.174 | 0.196                             | 0.176 | 0.078 |
| TPSB336*006#0600                 | B            | 33                  | 6.3                     | 2.1                 | 6               | 600                         | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPST336*006#0800                 | T            | 33                  | 6.3                     | 2.1                 | 10              | 800                         | 0.316                             | 0.285 | 0.126 | 0.253                             | 0.228 | 0.101 |
| TPSA476*006#0800                 | A            | 47                  | 6.3                     | 2.8                 | 10              | 800                         | 0.306                             | 0.276 | 0.122 | 0.245                             | 0.220 | 0.098 |
| TPSB476*006#0250                 | B            | 47                  | 6.3                     | 3                   | 6               | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB476*006#0350                 | B            | 47                  | 6.3                     | 3                   | 6               | 350                         | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB476*006#0500                 | B            | 47                  | 6.3                     | 3                   | 6               | 500                         | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSC476*006#0300                 | C            | 47                  | 6.3                     | 3                   | 6               | 300                         | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPST476*006#1200                 | T            | 47                  | 6.3                     | 2.8                 | 10              | 1200                        | 0.258                             | 0.232 | 0.103 | 0.310                             | 0.279 | 0.124 |
| TPSB686*006#0250                 | B            | 68                  | 6.3                     | 4.3                 | 8               | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB686*006#0350                 | B            | 68                  | 6.3                     | 4.3                 | 8               | 350                         | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB686*006#0500                 | B            | 68                  | 6.3                     | 4.3                 | 8               | 500                         | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSC686*006#0150                 | C            | 68                  | 6.3                     | 4.3                 | 6               | 150                         | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC686*006#0200                 | C            | 68                  | 6.3                     | 4.3                 | 6               | 200                         | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSW686*006#0110                 | W            | 68                  | 6.3                     | 4.3                 | 6               | 110                         | 0.905                             | 0.814 | 0.362 | 0.099                             | 0.090 | 0.040 |
| TPSW686*006#0125                 | W            | 68                  | 6.3                     | 4.3                 | 6               | 125                         | 0.849                             | 0.764 | 0.339 | 0.106                             | 0.095 | 0.042 |
| TPSW686*006#0250                 | W            | 68                  | 6.3                     | 4.3                 | 6               | 250                         | 0.600                             | 0.540 | 0.240 | 0.150                             | 0.135 | 0.060 |
| TPSB107*006#0250                 | B            | 100                 | 6.3                     | 6.3                 | 10              | 250                         | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB107*006#0400                 | B            | 100                 | 6.3                     | 6.3                 | 10              | 400                         | 0.461                             | 0.415 | 0.184 | 0.184                             | 0.166 | 0.074 |
| TPSC107*006#0075                 | C            | 100                 | 6.3                     | 6.3                 | 6               | 75                          | 1.211                             | 1.090 | 0.484 | 0.091                             | 0.082 | 0.036 |
| TPSC107*006#0150                 | C            | 100                 | 6.3                     | 6.3                 | 6               | 150                         | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSW107*006#0100                 | W            | 100                 | 6.3                     | 6.3                 | 6               | 100                         | 0.949                             | 0.854 | 0.379 | 0.095                             | 0.085 | 0.038 |
| TPSW107*006#0150                 | W            | 100                 | 6.3                     | 6.3                 | 6               | 150                         | 0.775                             | 0.697 | 0.310 | 0.116                             | 0.105 | 0.046 |
| TPSY107*006#0100                 | Y            | 100                 | 6.3                     | 6.3                 | 6               | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSC157*006#0050                 | C            | 150                 | 6.3                     | 9.5                 | 6               | 50                          | 1.483                             | 1.335 | 0.593 | 0.074                             | 0.067 | 0.030 |
| TPSC157*006#0090                 | C            | 150                 | 6.3                     | 9.5                 | 6               | 90                          | 1.106                             | 0.995 | 0.442 | 0.099                             | 0.090 | 0.040 |
| TPSC157*006#0150                 | C            | 150                 | 6.3                     | 9.5                 | 6               | 150                         | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC157*006#0200                 | C            | 150                 | 6.3                     | 9.5                 | 6               | 200                         | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSC157*006#0250                 | C            | 150                 | 6.3                     | 9.5                 | 6               | 250                         | 0.663                             | 0.597 | 0.265 | 0.166                             | 0.149 | 0.066 |
| TPSD157*006#0050                 | D            | 150                 | 6.3                     | 9.5                 | 6               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD157*006#0125                 | D            | 150                 | 6.3                     | 9.5                 | 6               | 125                         | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSY157*006#0040                 | Y            | 150                 | 6.3                     | 9.5                 | 6               | 40                          | 1.768                             | 1.591 | 0.707 | 0.071                             | 0.064 | 0.028 |
| TPSY157*006#0050                 | Y            | 150                 | 6.3                     | 9.5                 | 6               | 50                          | 1.581                             | 1.423 | 0.632 | 0.079                             | 0.071 | 0.032 |
| TPSC227*006#0070                 | C            | 220                 | 6.3                     | 13.9                | 8               | 70                          | 1.254                             | 1.128 | 0.501 | 0.088                             | 0.079 | 0.035 |
| TPSC227*006#0100                 | C            | 220                 | 6.3                     | 13.9                | 8               | 100                         | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSC227*006#0125                 | C            | 220                 | 6.3                     | 13.9                | 8               | 125                         | 0.938                             | 0.844 | 0.375 | 0.117                             | 0.106 | 0.047 |
| TPSC227*006#0250                 | C            | 220                 | 6.3                     | 13.9                | 8               | 250                         | 0.663                             | 0.597 | 0.265 | 0.166                             | 0.149 | 0.066 |
| TPSD227*006#0050                 | D            | 220                 | 6.3                     | 13.9                | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD227*006#0100                 | D            | 220                 | 6.3                     | 13.9                | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD227*006#0125                 | D            | 220                 | 6.3                     | 13.9                | 8               | 125                         | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSE227*006#0100                 | E            | 220                 | 6.3                     | 13.9                | 8               | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSF227*006#0200                 | F            | 220                 | 6.3                     | 13.2                | 10              | 200                         | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSY227*006#0100                 | Y            | 220                 | 6.3                     | 13.9                | 10              | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY227*006#0150                 | Y            | 220                 | 6.3                     | 13.9                | 10              | 150                         | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSC337*006#0080                 | C            | 330                 | 6.3                     | 19.8                | 12              | 80                          | 1.173                             | 1.055 | 0.469 | 0.094                             | 0.084 | 0.038 |
| TPSC337*006#0100                 | C            | 330                 | 6.3                     | 19.8                | 12              | 100                         | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSD337*006#0045                 | D            | 330                 | 6.3                     | 20.8                | 8               | 45                          | 1.826                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSD337*006#0050                 | D            | 330                 | 6.3                     | 20.8                | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |

\* Insert K for  $\pm 10\%$  and M for  $\pm 20\%$  Capacitance Tolerance  
All technical data relates to an ambient temperature of  $+25^{\circ}\text{C}$ .  
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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**  
# **Gold Plating** – Insert R for 7" reel and S for 13" reel  
# **Tin Lead Plating** – Insert A for 7" reel and B for 13" reel  
# **Tin Lead Plating** – Insert H for 7" reel (contact manufacturer)  
# **Tin Lead Plating** – Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.                    | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|---------------------------------|-----------|------------------|-------------------|---------------|-----------|-----------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                 |           |                  |                   |               |           |                       | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSD337*006#0070                | D         | 330              | 6.3               | 20.8          | 8         | 70                    | 1.464                             | 1.317 | 0.586 | 0.102                             | 0.092 | 0.041 |
| TPSD337*006#0100                | D         | 330              | 6.3               | 20.8          | 8         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSE337*006#0050                | E         | 330              | 6.3               | 20.8          | 8         | 50                    | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE337*006#0100                | E         | 330              | 6.3               | 20.8          | 8         | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE337*006#0125                | E         | 330              | 6.3               | 20.8          | 8         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE337*006#0150                | E         | 330              | 6.3               | 20.8          | 8         | 150                   | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSV337*006#0100                | V         | 330              | 6.3               | 20.8          | 8         | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| TPSY337*006#0100                | Y         | 330              | 6.3               | 20.8          | 12        | 100                   | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY337*006#0150                | Y         | 330              | 6.3               | 20.8          | 12        | 150                   | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSD477*006#0045                | D         | 470              | 6.3               | 29.6          | 12        | 45                    | 1.826                             | 1.643 | 0.730 | 0.082                             | 0.074 | 0.033 |
| TPSD477*006#0060                | D         | 470              | 6.3               | 29.6          | 12        | 60                    | 1.581                             | 1.423 | 0.632 | 0.095                             | 0.085 | 0.038 |
| TPSD477*006#0100                | D         | 470              | 6.3               | 29.6          | 12        | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD477*006#0200                | D         | 470              | 6.3               | 29.6          | 12        | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSE477*006#0045                | E         | 470              | 6.3               | 29.6          | 10        | 45                    | 1.915                             | 1.723 | 0.766 | 0.086                             | 0.078 | 0.034 |
| TPSE477*006#0050                | E         | 470              | 6.3               | 29.6          | 10        | 50                    | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE477*006#0060                | E         | 470              | 6.3               | 29.6          | 10        | 60                    | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE477*006#0100                | E         | 470              | 6.3               | 29.6          | 10        | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE477*006#0200                | E         | 470              | 6.3               | 29.6          | 10        | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSV477*006#0040                | V         | 470              | 6.3               | 29.6          | 10        | 40                    | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV477*006#0055                | V         | 470              | 6.3               | 29.6          | 10        | 55                    | 2.132                             | 1.919 | 0.853 | 0.117                             | 0.106 | 0.047 |
| TPSV477*006#0100                | V         | 470              | 6.3               | 29.6          | 10        | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| TPSY477*006#0150                | Y         | 470              | 6.3               | 28.2          | 20        | 150                   | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSE687*006#0045                | E         | 680              | 6.3               | 42.8          | 10        | 45                    | 1.915                             | 1.723 | 0.766 | 0.086                             | 0.078 | 0.034 |
| TPSE687*006#0060                | E         | 680              | 6.3               | 42.8          | 10        | 60                    | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE687*006#0100                | E         | 680              | 6.3               | 42.8          | 10        | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSV687*006#0035                | V         | 680              | 6.3               | 42.8          | 14        | 35                    | 2.673                             | 2.405 | 1.069 | 0.094                             | 0.084 | 0.037 |
| TPSV687*006#0040                | V         | 680              | 6.3               | 42.8          | 10        | 40                    | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV687*006#0050                | V         | 680              | 6.3               | 42.8          | 10        | 50                    | 2.236                             | 2.012 | 0.894 | 0.112                             | 0.101 | 0.045 |
| TPSE108M006#0100                | E         | 1000             | 6.3               | 60            | 20        | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSV108M006#0040                | V         | 1000             | 6.3               | 60            | 16        | 40                    | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV108M006#0050                | V         | 1000             | 6.3               | 60            | 16        | 50                    | 2.236                             | 2.012 | 0.894 | 0.112                             | 0.101 | 0.045 |
| 10 Volt @ 85°C (7 Volt @ 125°C) |           |                  |                   |               |           |                       |                                   |       |       |                                   |       |       |
| TPSR105*010#9000                | R         | 1                | 10                | 0.5           | 4         | 9000                  | 0.078                             | 0.070 | 0.031 | 0.704                             | 0.633 | 0.281 |
| TPSA225*010#1800                | A         | 2.2              | 10                | 0.5           | 6         | 1800                  | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPST335*010#1500                | T         | 3.3              | 10                | 0.5           | 6         | 1500                  | 0.231                             | 0.208 | 0.092 | 0.346                             | 0.312 | 0.139 |
| TPSA475*010#1400                | A         | 4.7              | 10                | 0.5           | 6         | 1400                  | 0.231                             | 0.208 | 0.093 | 0.324                             | 0.292 | 0.130 |
| TPSR475*010#3000                | R         | 4.7              | 10                | 0.5           | 6         | 3000                  | 0.135                             | 0.122 | 0.054 | 0.406                             | 0.366 | 0.162 |
| TPSR475*010#5000                | R         | 4.7              | 10                | 0.5           | 6         | 5000                  | 0.105                             | 0.094 | 0.042 | 0.524                             | 0.472 | 0.210 |
| TPSA685*010#1800                | A         | 6.8              | 10                | 0.7           | 6         | 1800                  | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPST685*010#1800                | T         | 6.8              | 10                | 0.7           | 6         | 1800                  | 0.211                             | 0.190 | 0.084 | 0.379                             | 0.342 | 0.152 |
| TPSA106*010#0900                | A         | 10               | 10                | 1             | 6         | 900                   | 0.289                             | 0.260 | 0.115 | 0.260                             | 0.234 | 0.104 |
| TPSA106*010#1800                | A         | 10               | 10                | 1             | 6         | 1800                  | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPSP106M010#2000                | P         | 10               | 10                | 1             | 8         | 2000                  | 0.173                             | 0.156 | 0.069 | 0.346                             | 0.312 | 0.139 |
| TPST106*010#1000                | T         | 10               | 10                | 1             | 6         | 1000                  | 0.283                             | 0.255 | 0.113 | 0.283                             | 0.255 | 0.113 |
| TPST106*010#2000                | T         | 10               | 10                | 1             | 6         | 2000                  | 0.200                             | 0.180 | 0.080 | 0.400                             | 0.360 | 0.160 |
| TPSA156*010#1000                | A         | 15               | 10                | 1.5           | 6         | 1000                  | 0.274                             | 0.246 | 0.110 | 0.274                             | 0.246 | 0.110 |
| TPSB156*010#0450                | B         | 15               | 10                | 1.5           | 6         | 450                   | 0.435                             | 0.391 | 0.174 | 0.196                             | 0.176 | 0.078 |
| TPSB156*010#0600                | B         | 15               | 10                | 1.5           | 6         | 600                   | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPST156*010#1200                | T         | 15               | 10                | 1.5           | 8         | 1200                  | 0.258                             | 0.232 | 0.103 | 0.310                             | 0.279 | 0.124 |
| TPSB226*010#0400                | B         | 22               | 10                | 2.2           | 6         | 400                   | 0.461                             | 0.415 | 0.184 | 0.184                             | 0.166 | 0.074 |
| TPSB226*010#0500                | B         | 22               | 10                | 2.2           | 6         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB226*010#0700                | B         | 22               | 10                | 2.2           | 6         | 700                   | 0.348                             | 0.314 | 0.139 | 0.244                             | 0.220 | 0.098 |
| TPSC226*010#0300                | C         | 22               | 10                | 2.2           | 6         | 300                   | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPST226*010#0800                | T         | 22               | 10                | 2.2           | 8         | 800                   | 0.316                             | 0.285 | 0.126 | 0.253                             | 0.228 | 0.101 |
| TPSA336*010#0700                | A         | 33               | 10                | 3.3           | 8         | 700                   | 0.327                             | 0.295 | 0.131 | 0.229                             | 0.206 | 0.092 |
| TPSB336*010#0250                | B         | 33               | 10                | 3.3           | 6         | 250                   | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB336*010#0425                | B         | 33               | 10                | 3.3           | 6         | 425                   | 0.447                             | 0.402 | 0.179 | 0.190                             | 0.171 | 0.076 |
| TPSB336*010#0500                | B         | 33               | 10                | 3.3           | 6         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB336*010#0650                | B         | 33               | 10                | 3.3           | 6         | 650                   | 0.362                             | 0.325 | 0.145 | 0.235                             | 0.212 | 0.094 |
| TPSC336*010#0150                | C         | 33               | 10                | 3.3           | 6         | 150                   | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC336*010#0375                | C         | 33               | 10                | 3.3           | 6         | 375                   | 0.542                             | 0.487 | 0.217 | 0.203                             | 0.183 | 0.081 |
| TPSC336*010#0500                | C         | 33               | 10                | 3.3           | 6         | 500                   | 0.469                             | 0.422 | 0.188 | 0.235                             | 0.211 | 0.094 |
| TPSW336*010#0350                | W         | 33               | 10                | 3.3           | 6         | 350                   | 0.507                             | 0.456 | 0.203 | 0.177                             | 0.160 | 0.071 |
| TPSB476*010#0250                | B         | 47               | 10                | 4.7           | 8         | 250                   | 0.583                             | 0.525 | 0.233 | 0.146                             | 0.131 | 0.058 |
| TPSB476*010#0350                | B         | 47               | 10                | 4.7           | 8         | 350                   | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB476*010#0500                | B         | 47               | 10                | 4.7           | 8         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB476*010#0650                | B         | 47               | 10                | 4.7           | 8         | 650                   | 0.362                             | 0.325 | 0.145 | 0.235                             | 0.212 | 0.094 |

\* Insert K for ±10% and M for ±20% Capacitance Tolerance  
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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**  
# **Gold Plating** – Insert R for 7" reel and S for 13" reel  
# **Tin Lead Plating** – Insert A for 7" reel and B for 13" reel  
# **Tin Lead Plating** – Insert H for 7" reel (contact manufacturer)  
# **Tin Lead Plating** – Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (mΩ)<br>@100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|------------------|--------------|---------------------|-------------------------|---------------------|-----------------|-----------------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                  |              |                     |                         |                     |                 |                             | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSC476*010#0200 | C            | 47                  | 10                      | 4.7                 | 6               | 200                         | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSC476*010#0350 | C            | 47                  | 10                      | 4.7                 | 6               | 350                         | 0.561                             | 0.505 | 0.224 | 0.196                             | 0.177 | 0.078 |
| TPSD476*010#0100 | D            | 47                  | 10                      | 4.7                 | 6               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSW476*010#0125 | W            | 47                  | 10                      | 4.7                 | 6               | 125                         | 0.849                             | 0.764 | 0.339 | 0.106                             | 0.095 | 0.042 |
| TPSW476*010#0150 | W            | 47                  | 10                      | 4.7                 | 6               | 150                         | 0.775                             | 0.697 | 0.310 | 0.116                             | 0.105 | 0.046 |
| TPSW476*010#0250 | W            | 47                  | 10                      | 4.7                 | 6               | 250                         | 0.600                             | 0.540 | 0.240 | 0.150                             | 0.135 | 0.060 |
| TPSB686*010#0600 | B            | 68                  | 10                      | 6.8                 | 8               | 600                         | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSC686*010#0080 | C            | 68                  | 10                      | 6.8                 | 6               | 80                          | 1.173                             | 1.055 | 0.469 | 0.094                             | 0.084 | 0.038 |
| TPSC686*010#0100 | C            | 68                  | 10                      | 6.8                 | 6               | 100                         | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSC686*010#0200 | C            | 68                  | 10                      | 6.8                 | 6               | 200                         | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSC686*010#0300 | C            | 68                  | 10                      | 6.8                 | 6               | 300                         | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSD686*010#0100 | D            | 68                  | 10                      | 6.8                 | 6               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD686*010#0150 | D            | 68                  | 10                      | 6.8                 | 6               | 150                         | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSY686*010#0100 | Y            | 68                  | 10                      | 6.8                 | 6               | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY686*010#0200 | Y            | 68                  | 10                      | 6.8                 | 6               | 200                         | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSW686*010#0100 | W            | 68                  | 10                      | 6.8                 | 6               | 100                         | 0.949                             | 0.854 | 0.379 | 0.095                             | 0.085 | 0.038 |
| TPSW686*010#0150 | W            | 68                  | 10                      | 6.8                 | 6               | 150                         | 0.775                             | 0.697 | 0.310 | 0.116                             | 0.105 | 0.046 |
| TPSB107M010#0400 | B            | 100                 | 10                      | 10                  | 8               | 400                         | 0.461                             | 0.415 | 0.184 | 0.184                             | 0.166 | 0.074 |
| TPSC107*010#0075 | C            | 100                 | 10                      | 10                  | 8               | 75                          | 1.211                             | 1.090 | 0.484 | 0.091                             | 0.082 | 0.036 |
| TPSC107*010#0100 | C            | 100                 | 10                      | 10                  | 8               | 100                         | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSC107*010#0150 | C            | 100                 | 10                      | 10                  | 8               | 150                         | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC107*010#0200 | C            | 100                 | 10                      | 10                  | 8               | 200                         | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSD107*010#0050 | D            | 100                 | 10                      | 10                  | 6               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD107*010#0065 | D            | 100                 | 10                      | 10                  | 6               | 65                          | 1.519                             | 1.367 | 0.608 | 0.099                             | 0.089 | 0.039 |
| TPSD107*010#0080 | D            | 100                 | 10                      | 10                  | 6               | 80                          | 1.369                             | 1.232 | 0.548 | 0.110                             | 0.099 | 0.044 |
| TPSD107*010#0100 | D            | 100                 | 10                      | 10                  | 6               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD107*010#0125 | D            | 100                 | 10                      | 10                  | 6               | 125                         | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD107*010#0150 | D            | 100                 | 10                      | 10                  | 6               | 150                         | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE107*010#0125 | E            | 100                 | 10                      | 10                  | 6               | 125                         | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSW107*010#0150 | W            | 100                 | 10                      | 10                  | 6               | 150                         | 0.775                             | 0.697 | 0.310 | 0.116                             | 0.105 | 0.046 |
| TPSX107*010#0085 | X            | 100                 | 10                      | 10                  | 8               | 85                          | 1.085                             | 0.976 | 0.434 | 0.092                             | 0.083 | 0.037 |
| TPSX107*010#0150 | X            | 100                 | 10                      | 10                  | 8               | 150                         | 0.816                             | 0.735 | 0.327 | 0.122                             | 0.110 | 0.049 |
| TPSX107*010#0200 | X            | 100                 | 10                      | 10                  | 8               | 200                         | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSY107*010#0100 | Y            | 100                 | 10                      | 10                  | 6               | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY107*010#0150 | Y            | 100                 | 10                      | 10                  | 6               | 150                         | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSY107*010#0200 | Y            | 100                 | 10                      | 10                  | 6               | 200                         | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD157*010#0050 | D            | 150                 | 10                      | 15                  | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD157*010#0085 | D            | 150                 | 10                      | 15                  | 8               | 85                          | 1.328                             | 1.196 | 0.531 | 0.113                             | 0.102 | 0.045 |
| TPSD157*010#0100 | D            | 150                 | 10                      | 15                  | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSE157*010#0100 | E            | 150                 | 10                      | 15                  | 8               | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSF157*010#0200 | F            | 150                 | 10                      | 15                  | 10              | 200                         | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSX157M010#0100 | X            | 150                 | 10                      | 15                  | 6               | 100                         | 1.000                             | 0.900 | 0.400 | 0.100                             | 0.090 | 0.040 |
| TPSY157*010#0100 | Y            | 150                 | 10                      | 15                  | 6               | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY157*010#0150 | Y            | 150                 | 10                      | 15                  | 6               | 150                         | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSY157*010#0200 | Y            | 150                 | 10                      | 15                  | 6               | 200                         | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD227*010#0050 | D            | 220                 | 10                      | 22                  | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD227*010#0100 | D            | 220                 | 10                      | 22                  | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD227*010#0150 | D            | 220                 | 10                      | 22                  | 8               | 150                         | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE227*010#0050 | E            | 220                 | 10                      | 22                  | 8               | 50                          | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE227*010#0060 | E            | 220                 | 10                      | 22                  | 8               | 60                          | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE227*010#0070 | E            | 220                 | 10                      | 22                  | 8               | 70                          | 1.535                             | 1.382 | 0.614 | 0.107                             | 0.097 | 0.043 |
| TPSE227*010#0100 | E            | 220                 | 10                      | 22                  | 8               | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE227*010#0125 | E            | 220                 | 10                      | 22                  | 8               | 125                         | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE227*010#0150 | E            | 220                 | 10                      | 22                  | 8               | 150                         | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSY227*010#0100 | Y            | 220                 | 10                      | 22                  | 10              | 100                         | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY227*010#0150 | Y            | 220                 | 10                      | 22                  | 10              | 150                         | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSY227*010#0200 | Y            | 220                 | 10                      | 22                  | 10              | 200                         | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD337*010#0050 | D            | 330                 | 10                      | 33                  | 8               | 50                          | 1.732                             | 1.559 | 0.693 | 0.087                             | 0.078 | 0.035 |
| TPSD337*010#0065 | D            | 330                 | 10                      | 33                  | 8               | 65                          | 1.519                             | 1.367 | 0.608 | 0.099                             | 0.089 | 0.039 |
| TPSD337*010#0100 | D            | 330                 | 10                      | 33                  | 8               | 100                         | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD337*010#0150 | D            | 330                 | 10                      | 33                  | 8               | 150                         | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE337*010#0040 | E            | 330                 | 10                      | 33                  | 8               | 40                          | 2.031                             | 1.828 | 0.812 | 0.081                             | 0.073 | 0.032 |
| TPSE337*010#0050 | E            | 330                 | 10                      | 33                  | 8               | 50                          | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE337*010#0060 | E            | 330                 | 10                      | 33                  | 8               | 60                          | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE337*010#0100 | E            | 330                 | 10                      | 33                  | 8               | 100                         | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSV337*010#0040 | V            | 330                 | 10                      | 33                  | 10              | 40                          | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV337*010#0060 | V            | 330                 | 10                      | 33                  | 10              | 60                          | 2.041                             | 1.837 | 0.816 | 0.122                             | 0.110 | 0.049 |

\* Insert K for ±10% and M for ±20% Capacitance Tolerance  
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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**  
# **Gold Plating** – Insert R for 7" reel and S for 13" reel  
# **Tin Lead Plating** – Insert A for 7" reel and B for 13" reel  
# **Tin Lead Plating** – Insert H for 7" reel (contact manufacturer)  
# **Tin Lead Plating** – Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.                     | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|----------------------------------|-----------|------------------|-------------------|---------------|-----------|-----------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                  |           |                  |                   |               |           |                       | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSV337*010#0100                 | V         | 330              | 10                | 33            | 10        | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| TPSE477*010#0045                 | E         | 470              | 10                | 47            | 10        | 45                    | 1.915                             | 1.723 | 0.766 | 0.086                             | 0.078 | 0.034 |
| TPSE477*010#0050                 | E         | 470              | 10                | 47            | 10        | 50                    | 1.817                             | 1.635 | 0.727 | 0.091                             | 0.082 | 0.036 |
| TPSE477*010#0060                 | E         | 470              | 10                | 47            | 10        | 60                    | 1.658                             | 1.492 | 0.663 | 0.099                             | 0.090 | 0.040 |
| TPSE477*010#0100                 | E         | 470              | 10                | 47            | 10        | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE477*010#0200                 | E         | 470              | 10                | 47            | 10        | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSV477*010#0040                 | V         | 470              | 10                | 47            | 10        | 40                    | 2.500                             | 2.250 | 1.000 | 0.100                             | 0.090 | 0.040 |
| TPSV477*010#0060                 | V         | 470              | 10                | 47            | 10        | 60                    | 2.041                             | 1.837 | 0.816 | 0.122                             | 0.110 | 0.049 |
| TPSV477*010#0100                 | V         | 470              | 10                | 47            | 10        | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| 16 Volt @ 85°C (10 Volt @ 125°C) |           |                  |                   |               |           |                       |                                   |       |       |                                   |       |       |
| TPSA225*016#1800                 | A         | 2.2              | 16                | 0.5           | 6         | 1800                  | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPSA225*016#3500                 | A         | 2.2              | 16                | 0.5           | 6         | 3500                  | 0.146                             | 0.132 | 0.059 | 0.512                             | 0.461 | 0.205 |
| TPST225*016#2000                 | T         | 2.2              | 16                | 0.5           | 6         | 2000                  | 0.200                             | 0.180 | 0.080 | 0.400                             | 0.360 | 0.160 |
| TPSA335*016#3500                 | A         | 3.3              | 16                | 0.5           | 6         | 3500                  | 0.146                             | 0.132 | 0.059 | 0.512                             | 0.461 | 0.205 |
| TPSA475*016#2000                 | A         | 4.7              | 16                | 0.8           | 6         | 2000                  | 0.194                             | 0.174 | 0.077 | 0.387                             | 0.349 | 0.155 |
| TPSB475*016#0800                 | B         | 4.7              | 16                | 0.8           | 6         | 800                   | 0.326                             | 0.293 | 0.130 | 0.261                             | 0.235 | 0.104 |
| TPSB475*016#1500                 | B         | 4.7              | 16                | 0.8           | 6         | 1500                  | 0.238                             | 0.214 | 0.095 | 0.357                             | 0.321 | 0.143 |
| TPSA685*016#1500                 | A         | 6.8              | 16                | 1.1           | 6         | 1500                  | 0.224                             | 0.201 | 0.089 | 0.335                             | 0.302 | 0.134 |
| TPSB685*016#0600                 | B         | 6.8              | 16                | 1.1           | 6         | 600                   | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSB685*016#1200                 | B         | 6.8              | 16                | 1.1           | 6         | 1200                  | 0.266                             | 0.240 | 0.106 | 0.319                             | 0.287 | 0.128 |
| TPSB106*016#0500                 | B         | 10               | 16                | 1.6           | 6         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB106*016#0800                 | B         | 10               | 16                | 1.6           | 6         | 800                   | 0.326                             | 0.293 | 0.130 | 0.261                             | 0.235 | 0.104 |
| TPSC106*016#0500                 | C         | 10               | 16                | 1.6           | 6         | 500                   | 0.469                             | 0.422 | 0.188 | 0.235                             | 0.211 | 0.094 |
| TPST106*016#0800                 | T         | 10               | 16                | 1.6           | 8         | 800                   | 0.316                             | 0.285 | 0.126 | 0.253                             | 0.228 | 0.101 |
| TPST106*016#1000                 | T         | 10               | 16                | 1.6           | 8         | 1000                  | 0.283                             | 0.255 | 0.113 | 0.283                             | 0.255 | 0.113 |
| TPSW106*016#0500                 | W         | 10               | 16                | 1.6           | 6         | 500                   | 0.424                             | 0.382 | 0.170 | 0.212                             | 0.191 | 0.085 |
| TPSW106*016#0600                 | W         | 10               | 16                | 1.6           | 6         | 600                   | 0.387                             | 0.349 | 0.155 | 0.232                             | 0.209 | 0.093 |
| TPSB156*016#0500                 | B         | 15               | 16                | 2.4           | 6         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB156*016#0800                 | B         | 15               | 16                | 2.4           | 6         | 800                   | 0.326                             | 0.293 | 0.130 | 0.261                             | 0.235 | 0.104 |
| TPSB226*016#0400                 | B         | 22               | 16                | 3.5           | 6         | 400                   | 0.461                             | 0.415 | 0.184 | 0.184                             | 0.166 | 0.074 |
| TPSB226*016#0600                 | B         | 22               | 16                | 3.5           | 6         | 600                   | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSC226*016#0150                 | C         | 22               | 16                | 3.5           | 6         | 150                   | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC226*016#0250                 | C         | 22               | 16                | 3.5           | 6         | 250                   | 0.663                             | 0.597 | 0.265 | 0.166                             | 0.149 | 0.066 |
| TPSC226*016#0300                 | C         | 22               | 16                | 3.5           | 6         | 300                   | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSC226*016#0375                 | C         | 22               | 16                | 3.5           | 6         | 375                   | 0.542                             | 0.487 | 0.217 | 0.203                             | 0.183 | 0.081 |
| TPSW226*016#0500                 | W         | 22               | 16                | 3.5           | 6         | 500                   | 0.424                             | 0.382 | 0.170 | 0.212                             | 0.191 | 0.085 |
| TPSB336*016#0350                 | B         | 33               | 16                | 5.3           | 8         | 350                   | 0.493                             | 0.444 | 0.197 | 0.172                             | 0.155 | 0.069 |
| TPSB336*016#0500                 | B         | 33               | 16                | 5.3           | 8         | 500                   | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSC336*016#0100                 | C         | 33               | 16                | 5.3           | 6         | 100                   | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSC336*016#0150                 | C         | 33               | 16                | 5.3           | 6         | 150                   | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC336*016#0225                 | C         | 33               | 16                | 5.3           | 6         | 225                   | 0.699                             | 0.629 | 0.280 | 0.157                             | 0.142 | 0.063 |
| TPSC336*016#0300                 | C         | 33               | 16                | 5.3           | 6         | 300                   | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSD336*016#0200                 | D         | 33               | 16                | 5.3           | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSW336*016#0140                 | W         | 33               | 16                | 5.3           | 6         | 140                   | 0.802                             | 0.722 | 0.321 | 0.112                             | 0.101 | 0.045 |
| TPSW336*016#0175                 | W         | 33               | 16                | 5.3           | 6         | 175                   | 0.717                             | 0.645 | 0.287 | 0.125                             | 0.113 | 0.050 |
| TPSW336*016#0250                 | W         | 33               | 16                | 5.3           | 6         | 250                   | 0.600                             | 0.540 | 0.240 | 0.150                             | 0.135 | 0.060 |
| TPSW336*016#0400                 | W         | 33               | 16                | 5.3           | 6         | 400                   | 0.474                             | 0.427 | 0.190 | 0.190                             | 0.171 | 0.076 |
| TPSW336*016#0500                 | W         | 33               | 16                | 5.3           | 6         | 500                   | 0.424                             | 0.382 | 0.170 | 0.212                             | 0.191 | 0.085 |
| TPSY336*016#0300                 | Y         | 33               | 16                | 5.3           | 6         | 300                   | 0.645                             | 0.581 | 0.258 | 0.194                             | 0.174 | 0.077 |
| TPSY336*016#0400                 | Y         | 33               | 16                | 5.3           | 6         | 400                   | 0.559                             | 0.503 | 0.224 | 0.224                             | 0.201 | 0.089 |
| TPSC476*016#0110                 | C         | 47               | 16                | 7.5           | 6         | 110                   | 1.000                             | 0.900 | 0.400 | 0.110                             | 0.099 | 0.044 |
| TPSC476*016#0350                 | C         | 47               | 16                | 7.5           | 6         | 350                   | 0.561                             | 0.505 | 0.224 | 0.196                             | 0.177 | 0.078 |
| TPSD476*016#0080                 | D         | 47               | 16                | 7.5           | 6         | 80                    | 1.369                             | 1.232 | 0.548 | 0.110                             | 0.099 | 0.044 |
| TPSD476*016#0100                 | D         | 47               | 16                | 7.5           | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD476*016#0150                 | D         | 47               | 16                | 7.5           | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSD476*016#0200                 | D         | 47               | 16                | 7.5           | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSW476*016#0200                 | W         | 47               | 16                | 7.5           | 6         | 200                   | 0.671                             | 0.604 | 0.268 | 0.134                             | 0.121 | 0.054 |
| TPSX476*016#0180                 | X         | 47               | 16                | 7.5           | 6         | 180                   | 0.745                             | 0.671 | 0.298 | 0.134                             | 0.121 | 0.054 |
| TPSY476*016#0250                 | Y         | 47               | 16                | 7.5           | 6         | 250                   | 0.707                             | 0.636 | 0.283 | 0.177                             | 0.159 | 0.071 |
| TPSC686*016#0125                 | C         | 68               | 16                | 10.9          | 6         | 125                   | 0.938                             | 0.844 | 0.375 | 0.117                             | 0.106 | 0.047 |
| TPSC686*016#0200                 | C         | 68               | 16                | 10.9          | 6         | 200                   | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSD686*016#0070                 | D         | 68               | 16                | 10.9          | 6         | 70                    | 1.464                             | 1.317 | 0.586 | 0.102                             | 0.092 | 0.041 |
| TPSD686*016#0100                 | D         | 68               | 16                | 10.9          | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD686*016#0150                 | D         | 68               | 16                | 10.9          | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSF686*016#0200                 | F         | 68               | 16                | 10.9          | 10        | 200                   | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSX686*016#0150                 | X         | 68               | 16                | 10.9          | 8         | 150                   | 0.816                             | 0.735 | 0.327 | 0.122                             | 0.110 | 0.049 |
| TPSY686*016#0150                 | Y         | 68               | 16                | 10.9          | 6         | 150                   | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |

\* Insert K for ±10% and M for ±20% Capacitance Tolerance

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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**

# **Gold Plating**

# **Tin Lead Plating**

# **Tin Lead Plating**

– Insert R for 7" reel and S for 13" reel  
– Insert A for 7" reel and B for 13" reel  
– Insert H for 7" reel (contact manufacturer)  
– Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.                  | Case<br>Size | Capacitance<br>( $\mu$ F) | Rated<br>Voltage<br>(V) | DCL<br>( $\mu$ A)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (m $\Omega$ )<br>@100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|----------------------------------|--------------|---------------------------|-------------------------|---------------------------|-----------------|--------------------------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                  |              |                           |                         |                           |                 |                                      | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSY686*016#0200                 | Y            | 68                        | 16                      | 10.9                      | 6               | 200                                  | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSY686*016#0250                 | Y            | 68                        | 16                      | 10.9                      | 6               | 250                                  | 0.707                             | 0.636 | 0.283 | 0.177                             | 0.159 | 0.071 |
| TPSC107*016#0200                 | C            | 100                       | 16                      | 16                        | 6               | 200                                  | 0.742                             | 0.667 | 0.297 | 0.148                             | 0.133 | 0.059 |
| TPSD107*016#0060                 | D            | 100                       | 16                      | 16                        | 6               | 60                                   | 1.581                             | 1.423 | 0.632 | 0.095                             | 0.085 | 0.038 |
| TPSD107*016#0100                 | D            | 100                       | 16                      | 16                        | 6               | 100                                  | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD107*016#0125                 | D            | 100                       | 16                      | 16                        | 6               | 125                                  | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD107*016#0150                 | D            | 100                       | 16                      | 16                        | 6               | 150                                  | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE107*016#0055                 | E            | 100                       | 16                      | 16                        | 6               | 55                                   | 1.732                             | 1.559 | 0.693 | 0.095                             | 0.086 | 0.038 |
| TPSE107*016#0100                 | E            | 100                       | 16                      | 16                        | 6               | 100                                  | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE107*016#0125                 | E            | 100                       | 16                      | 16                        | 6               | 125                                  | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE107*016#0150                 | E            | 100                       | 16                      | 16                        | 6               | 150                                  | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSF107M016#0150                 | F            | 100                       | 16                      | 16                        | 10              | 150                                  | 0.816                             | 0.735 | 0.327 | 0.122                             | 0.110 | 0.049 |
| TPSF107M016#0200                 | F            | 100                       | 16                      | 16                        | 10              | 200                                  | 0.707                             | 0.636 | 0.283 | 0.141                             | 0.127 | 0.057 |
| TPSY107*016#0100                 | Y            | 100                       | 16                      | 24                        | 6               | 100                                  | 1.118                             | 1.006 | 0.447 | 0.112                             | 0.101 | 0.045 |
| TPSY107*016#0150                 | Y            | 100                       | 16                      | 16                        | 8               | 150                                  | 0.913                             | 0.822 | 0.365 | 0.137                             | 0.123 | 0.055 |
| TPSY107*016#0200                 | Y            | 100                       | 16                      | 16                        | 8               | 200                                  | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD157*016#0060                 | D            | 150                       | 16                      | 24                        | 6               | 60                                   | 1.581                             | 1.423 | 0.632 | 0.095                             | 0.085 | 0.038 |
| TPSD157*016#0085                 | D            | 150                       | 16                      | 24                        | 6               | 85                                   | 1.328                             | 1.196 | 0.531 | 0.113                             | 0.102 | 0.045 |
| TPSD157*016#0100                 | D            | 150                       | 16                      | 24                        | 6               | 100                                  | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD157*016#0125                 | D            | 150                       | 16                      | 24                        | 6               | 125                                  | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD157*016#0150                 | D            | 150                       | 16                      | 24                        | 6               | 150                                  | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE157*016#0100                 | E            | 150                       | 16                      | 24                        | 6               | 100                                  | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSV157*016#0045                 | V            | 150                       | 16                      | 24                        | 8               | 45                                   | 2.357                             | 2.121 | 0.943 | 0.106                             | 0.095 | 0.042 |
| TPSV157*016#0075                 | V            | 150                       | 16                      | 24                        | 8               | 75                                   | 1.826                             | 1.643 | 0.730 | 0.137                             | 0.123 | 0.055 |
| TPSY157M016#0200                 | Y            | 150                       | 16                      | 24                        | 15              | 200                                  | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSE227*016#0100                 | E            | 220                       | 16                      | 35.2                      | 10              | 100                                  | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE227*016#0150                 | E            | 220                       | 16                      | 35.2                      | 10              | 150                                  | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSV227*016#0050                 | V            | 220                       | 16                      | 35.2                      | 8               | 50                                   | 2.236                             | 2.012 | 0.894 | 0.112                             | 0.101 | 0.045 |
| TPSV227*016#0075                 | V            | 220                       | 16                      | 35.2                      | 8               | 75                                   | 1.826                             | 1.643 | 0.730 | 0.137                             | 0.123 | 0.055 |
| TPSV227*016#0100                 | V            | 220                       | 16                      | 35.2                      | 8               | 100                                  | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| TPSV227*016#0150                 | V            | 220                       | 16                      | 35.2                      | 8               | 150                                  | 1.291                             | 1.162 | 0.516 | 0.194                             | 0.174 | 0.077 |
| 20 Volt @ 85°C (13 Volt @ 125°C) |              |                           |                         |                           |                 |                                      |                                   |       |       |                                   |       |       |
| TPSA105*020#3000                 | A            | 1                         | 20                      | 0.5                       | 4               | 3000                                 | 0.158                             | 0.142 | 0.063 | 0.474                             | 0.427 | 0.190 |
| TPSR105*020#6000                 | R            | 1                         | 20                      | 0.5                       | 4               | 6000                                 | 0.096                             | 0.086 | 0.038 | 0.574                             | 0.517 | 0.230 |
| TPSS105*020#6000                 | S            | 1                         | 20                      | 0.5                       | 4               | 6000                                 | 0.104                             | 0.094 | 0.042 | 0.624                             | 0.562 | 0.250 |
| TPST105*020#2000                 | T            | 1                         | 20                      | 0.5                       | 4               | 2000                                 | 0.200                             | 0.180 | 0.080 | 0.400                             | 0.360 | 0.160 |
| TPSA225*020#3000                 | A            | 2.2                       | 20                      | 0.5                       | 6               | 3000                                 | 0.158                             | 0.142 | 0.063 | 0.474                             | 0.427 | 0.190 |
| TPSA335*020#2500                 | A            | 3.3                       | 20                      | 0.7                       | 6               | 2500                                 | 0.173                             | 0.156 | 0.069 | 0.433                             | 0.390 | 0.173 |
| TPSB335*020#1300                 | B            | 3.3                       | 20                      | 0.7                       | 6               | 1300                                 | 0.256                             | 0.230 | 0.102 | 0.332                             | 0.299 | 0.133 |
| TPSA475*020#1800                 | A            | 4.7                       | 20                      | 0.9                       | 6               | 1800                                 | 0.204                             | 0.184 | 0.082 | 0.367                             | 0.331 | 0.147 |
| TPSB475*020#0750                 | B            | 4.7                       | 20                      | 0.9                       | 6               | 750                                  | 0.337                             | 0.303 | 0.135 | 0.252                             | 0.227 | 0.101 |
| TPSB475*020#1000                 | B            | 4.7                       | 20                      | 0.9                       | 6               | 1000                                 | 0.292                             | 0.262 | 0.117 | 0.292                             | 0.262 | 0.117 |
| TPSA685*020#1000                 | A            | 6.8                       | 20                      | 1.4                       | 6               | 1000                                 | 0.274                             | 0.246 | 0.110 | 0.274                             | 0.246 | 0.110 |
| TPSB685*020#0600                 | B            | 6.8                       | 20                      | 1.4                       | 6               | 600                                  | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSB685*020#1000                 | B            | 6.8                       | 20                      | 1.4                       | 6               | 1000                                 | 0.292                             | 0.262 | 0.117 | 0.292                             | 0.262 | 0.117 |
| TPSC685*020#0700                 | C            | 6.8                       | 20                      | 1.4                       | 6               | 700                                  | 0.396                             | 0.357 | 0.159 | 0.277                             | 0.250 | 0.111 |
| TPSB106*020#0500                 | B            | 10                        | 20                      | 2                         | 6               | 500                                  | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSB106*020#1000                 | B            | 10                        | 20                      | 2                         | 6               | 1000                                 | 0.292                             | 0.262 | 0.117 | 0.292                             | 0.262 | 0.117 |
| TPSC106*020#0500                 | C            | 10                        | 20                      | 2                         | 6               | 500                                  | 0.469                             | 0.422 | 0.188 | 0.235                             | 0.211 | 0.094 |
| TPSC106*020#0700                 | C            | 10                        | 20                      | 2                         | 6               | 700                                  | 0.396                             | 0.357 | 0.159 | 0.277                             | 0.250 | 0.111 |
| TPSW106*020#0500                 | W            | 10                        | 20                      | 2                         | 6               | 500                                  | 0.424                             | 0.382 | 0.170 | 0.212                             | 0.191 | 0.850 |
| TPSB156*020#0500                 | B            | 15                        | 20                      | 3                         | 6               | 500                                  | 0.412                             | 0.371 | 0.165 | 0.206                             | 0.186 | 0.082 |
| TPSC156*020#0400                 | C            | 15                        | 20                      | 3                         | 6               | 400                                  | 0.524                             | 0.472 | 0.210 | 0.210                             | 0.189 | 0.084 |
| TPSC156*020#0450                 | C            | 15                        | 20                      | 3                         | 6               | 450                                  | 0.494                             | 0.445 | 0.198 | 0.222                             | 0.200 | 0.089 |
| TPSB226*020#0400                 | B            | 22                        | 20                      | 4.4                       | 6               | 400                                  | 0.461                             | 0.415 | 0.184 | 0.184                             | 0.166 | 0.074 |
| TPSB226*020#0600                 | B            | 22                        | 20                      | 4.4                       | 6               | 600                                  | 0.376                             | 0.339 | 0.151 | 0.226                             | 0.203 | 0.090 |
| TPSC226*020#0100                 | C            | 22                        | 20                      | 4.4                       | 6               | 100                                  | 1.049                             | 0.944 | 0.420 | 0.105                             | 0.094 | 0.042 |
| TPSC226*020#0150                 | C            | 22                        | 20                      | 4.4                       | 6               | 150                                  | 0.856                             | 0.771 | 0.343 | 0.128                             | 0.116 | 0.051 |
| TPSC226*020#0400                 | C            | 22                        | 20                      | 4.4                       | 6               | 400                                  | 0.524                             | 0.472 | 0.210 | 0.210                             | 0.189 | 0.084 |
| TPSD226*020#0200                 | D            | 22                        | 20                      | 4.4                       | 6               | 200                                  | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD226*020#0300                 | D            | 22                        | 20                      | 4.4                       | 6               | 300                                  | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSC336*020#0300                 | C            | 33                        | 20                      | 6.6                       | 6               | 300                                  | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSD336*020#0100                 | D            | 33                        | 20                      | 6.6                       | 6               | 100                                  | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD336*020#0200                 | D            | 33                        | 20                      | 6.6                       | 6               | 200                                  | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.155 | 0.069 |
| TPSD476*020#0075                 | D            | 47                        | 20                      | 9.4                       | 6               | 75                                   | 1.414                             | 1.273 | 0.566 | 0.106                             | 0.095 | 0.042 |
| TPSD476*020#0100                 | D            | 47                        | 20                      | 9.4                       | 6               | 100                                  | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD476*020#0200                 | D            | 47                        | 20                      | 9.4                       | 6               | 200                                  | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |

\* Insert K for  $\pm 10\%$  and M for  $\pm 20\%$  Capacitance Tolerance  
All technical data relates to an ambient temperature of  $+25^{\circ}\text{C}$ .  
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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**  
# **Gold Plating** – Insert R for 7" reel and S for 13" reel  
# **Tin Lead Plating** – Insert A for 7" reel and B for 13" reel  
# **Tin Lead Plating** – Insert H for 7" reel (contact manufacturer)  
# **Tin Lead Plating** – Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.                     | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|----------------------------------|-----------|------------------|-------------------|---------------|-----------|-----------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                  |           |                  |                   |               |           |                       | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSE476*020#0070                 | E         | 47               | 20                | 9.4           | 6         | 70                    | 1.535                             | 1.382 | 0.614 | 0.107                             | 0.097 | 0.043 |
| TPSE476*020#0125                 | E         | 47               | 20                | 9.4           | 6         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE476*020#0150                 | E         | 47               | 20                | 9.4           | 6         | 150                   | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSE476*020#0200                 | E         | 47               | 20                | 9.4           | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSE476*020#0250                 | E         | 47               | 20                | 9.4           | 6         | 250                   | 0.812                             | 0.731 | 0.325 | 0.203                             | 0.183 | 0.081 |
| TPSD686*020#0070                 | D         | 68               | 20                | 13.6          | 6         | 70                    | 1.464                             | 1.317 | 0.586 | 0.102                             | 0.092 | 0.041 |
| TPSD686*020#0150                 | D         | 68               | 20                | 13.6          | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSD686*020#0200                 | D         | 68               | 20                | 13.6          | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD686*020#0300                 | D         | 68               | 20                | 13.6          | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSE686*020#0125                 | E         | 68               | 20                | 13.6          | 6         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE686*020#0150                 | E         | 68               | 20                | 13.6          | 6         | 150                   | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSE686*020#0200                 | E         | 68               | 20                | 13.6          | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSD107*020#0085                 | D         | 100              | 20                | 20            | 6         | 85                    | 1.328                             | 1.196 | 0.531 | 0.113                             | 0.102 | 0.045 |
| TPSD107*020#0100                 | D         | 100              | 20                | 20            | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD107*020#0150                 | D         | 100              | 20                | 20            | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSE107*020#0100                 | E         | 100              | 20                | 20            | 6         | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE107*020#0150                 | E         | 100              | 20                | 20            | 6         | 150                   | 1.049                             | 0.944 | 0.420 | 0.157                             | 0.142 | 0.063 |
| TPSE107*020#0200                 | E         | 100              | 20                | 20            | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSV107*020#0060                 | V         | 100              | 20                | 20            | 8         | 60                    | 2.041                             | 1.837 | 0.816 | 0.122                             | 0.110 | 0.049 |
| TPSV107*020#0085                 | V         | 100              | 20                | 20            | 8         | 85                    | 1.715                             | 1.543 | 0.686 | 0.146                             | 0.131 | 0.058 |
| TPSV107*020#0100                 | V         | 100              | 20                | 20            | 8         | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| TPSV107*020#0200                 | V         | 100              | 20                | 20            | 8         | 200                   | 1.118                             | 1.006 | 0.447 | 0.224                             | 0.201 | 0.089 |
| TPSV157*020#0080                 | V         | 150              | 20                | 30            | 8         | 80                    | 1.768                             | 1.591 | 0.707 | 0.141                             | 0.127 | 0.057 |
| 25 Volt @ 85°C (17 Volt @ 125°C) |           |                  |                   |               |           |                       |                                   |       |       |                                   |       |       |
| TPSA474*025#7000                 | A         | 0.47             | 25                | 0.5           | 4         | 7000                  | 0.104                             | 0.093 | 0.041 | 0.725                             | 0.652 | 0.290 |
| TPSA684*025#6000                 | A         | 0.68             | 25                | 0.5           | 4         | 6000                  | 0.112                             | 0.101 | 0.045 | 0.671                             | 0.604 | 0.268 |
| TPSR105*025#2500                 | R         | 1                | 25                | 0.5           | 4         | 2500                  | 0.148                             | 0.133 | 0.059 | 0.371                             | 0.334 | 0.148 |
| TPSR105*025#4000                 | R         | 1                | 25                | 0.5           | 4         | 4000                  | 0.117                             | 0.106 | 0.047 | 0.469                             | 0.422 | 0.188 |
| TPSA155*025#3000                 | A         | 1.5              | 25                | 0.5           | 6         | 3000                  | 0.158                             | 0.142 | 0.063 | 0.474                             | 0.427 | 0.190 |
| TPSB155*025#1800                 | B         | 1.5              | 25                | 0.5           | 6         | 1800                  | 0.217                             | 0.196 | 0.087 | 0.391                             | 0.352 | 0.156 |
| TPSB225*025#0900                 | B         | 2.2              | 25                | 0.6           | 6         | 900                   | 0.307                             | 0.277 | 0.123 | 0.277                             | 0.249 | 0.111 |
| TPSB225*025#1200                 | B         | 2.2              | 25                | 0.6           | 6         | 1200                  | 0.266                             | 0.240 | 0.106 | 0.319                             | 0.287 | 0.128 |
| TPSB225*025#2500                 | B         | 2.2              | 25                | 0.6           | 6         | 2500                  | 0.184                             | 0.166 | 0.074 | 0.461                             | 0.415 | 0.184 |
| TPSA335*025#1000                 | A         | 3.3              | 25                | 0.8           | 6         | 1000                  | 0.274                             | 0.246 | 0.110 | 0.274                             | 0.246 | 0.110 |
| TPSA335*025#1500                 | A         | 3.3              | 25                | 0.8           | 6         | 1500                  | 0.224                             | 0.201 | 0.089 | 0.335                             | 0.302 | 0.134 |
| TPSB335*025#0750                 | B         | 3.3              | 25                | 0.8           | 6         | 750                   | 0.337                             | 0.303 | 0.135 | 0.252                             | 0.227 | 0.101 |
| TPSB335*025#1500                 | B         | 3.3              | 25                | 0.8           | 6         | 1500                  | 0.238                             | 0.214 | 0.095 | 0.357                             | 0.321 | 0.143 |
| TPSB335*025#2000                 | B         | 3.3              | 25                | 0.8           | 6         | 2000                  | 0.206                             | 0.186 | 0.082 | 0.412                             | 0.371 | 0.165 |
| TPSB475*025#0700                 | B         | 4.7              | 25                | 1.2           | 6         | 700                   | 0.348                             | 0.314 | 0.139 | 0.244                             | 0.220 | 0.098 |
| TPSB475*025#0900                 | B         | 4.7              | 25                | 1.2           | 6         | 900                   | 0.307                             | 0.277 | 0.123 | 0.277                             | 0.249 | 0.111 |
| TPSB475*025#1500                 | B         | 4.7              | 25                | 1.2           | 6         | 1500                  | 0.238                             | 0.214 | 0.095 | 0.357                             | 0.321 | 0.143 |
| TPSB685*025#0700                 | B         | 6.8              | 25                | 1.7           | 6         | 700                   | 0.348                             | 0.314 | 0.139 | 0.244                             | 0.220 | 0.098 |
| TPSC685*025#0500                 | C         | 6.8              | 25                | 1.7           | 6         | 500                   | 0.469                             | 0.422 | 0.188 | 0.235                             | 0.211 | 0.094 |
| TPSC685*025#0600                 | C         | 6.8              | 25                | 1.7           | 6         | 600                   | 0.428                             | 0.385 | 0.171 | 0.257                             | 0.231 | 0.103 |
| TPSC685*025#0700                 | C         | 6.8              | 25                | 1.7           | 6         | 700                   | 0.396                             | 0.357 | 0.159 | 0.277                             | 0.250 | 0.111 |
| TPSB106*025#1800                 | B         | 10               | 25                | 2.5           | 6         | 1800                  | 0.217                             | 0.196 | 0.087 | 0.391                             | 0.352 | 0.156 |
| TPSC106*025#0300                 | C         | 10               | 25                | 2.5           | 6         | 300                   | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSC106*025#0500                 | C         | 10               | 25                | 2.5           | 6         | 500                   | 0.469                             | 0.422 | 0.188 | 0.235                             | 0.211 | 0.094 |
| TPSC156*025#0220                 | C         | 15               | 25                | 3.8           | 6         | 220                   | 0.707                             | 0.636 | 0.283 | 0.156                             | 0.140 | 0.062 |
| TPSC156*025#0300                 | C         | 15               | 25                | 3.8           | 6         | 300                   | 0.606                             | 0.545 | 0.242 | 0.182                             | 0.163 | 0.073 |
| TPSD156*025#0100                 | D         | 15               | 25                | 3.8           | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD156*025#0300                 | D         | 15               | 25                | 3.8           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSC226*025#0275                 | C         | 22               | 25                | 5.5           | 6         | 275                   | 0.632                             | 0.569 | 0.253 | 0.174                             | 0.157 | 0.070 |
| TPSC226*025#0400                 | C         | 22               | 25                | 5.5           | 6         | 400                   | 0.524                             | 0.472 | 0.210 | 0.210                             | 0.189 | 0.084 |
| TPSD226*025#0100                 | D         | 22               | 25                | 5.5           | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD226*025#0200                 | D         | 22               | 25                | 5.5           | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD226*025#0300                 | D         | 22               | 25                | 5.5           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSD336*025#0100                 | D         | 33               | 25                | 8.3           | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD336*025#0200                 | D         | 33               | 25                | 8.3           | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD336*025#0300                 | D         | 33               | 25                | 8.3           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSE336*025#0100                 | E         | 33               | 25                | 8.3           | 6         | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE336*025#0175                 | E         | 33               | 25                | 8.3           | 6         | 175                   | 0.971                             | 0.874 | 0.388 | 0.170                             | 0.153 | 0.068 |
| TPSE336*025#0200                 | E         | 33               | 25                | 8.3           | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSE336*025#0300                 | E         | 33               | 25                | 8.3           | 6         | 300                   | 0.742                             | 0.667 | 0.297 | 0.222                             | 0.200 | 0.089 |
| TPSY336*025#0200                 | Y         | 33               | 25                | 8.3           | 6         | 200                   | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD476*025#0125                 | D         | 47               | 25                | 11.8          | 6         | 125                   | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD476*025#0150                 | D         | 47               | 25                | 11.8          | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |

\* Insert K for ±10% and M for ±20% Capacitance Tolerance

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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**

# Gold Plating

# Tin Lead Plating

# Tin Lead Plating

– Insert R for 7" reel and S for 13" reel

– Insert A for 7" reel and B for 13" reel

– Insert H for 7" reel (contact manufacturer)

– Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX Part No.                     | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (mΩ) @100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|----------------------------------|-----------|------------------|-------------------|---------------|-----------|-----------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                  |           |                  |                   |               |           |                       | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSD476*025#0250                 | D         | 47               | 25                | 11.8          | 6         | 250                   | 0.775                             | 0.697 | 0.310 | 0.194                             | 0.174 | 0.077 |
| TPSE476*025#0080                 | E         | 47               | 25                | 11.8          | 6         | 80                    | 1.436                             | 1.293 | 0.574 | 0.115                             | 0.103 | 0.046 |
| TPSE476*025#0100                 | E         | 47               | 25                | 11.8          | 6         | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE476*025#0125                 | E         | 47               | 25                | 11.8          | 6         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE686*025#0125                 | E         | 68               | 25                | 17            | 6         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE686*025#0200                 | E         | 68               | 25                | 17            | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSV686*025#0080                 | V         | 68               | 25                | 17            | 6         | 80                    | 1.768                             | 1.591 | 0.707 | 0.141                             | 0.127 | 0.057 |
| TPSV686*025#0095                 | V         | 68               | 25                | 17            | 6         | 95                    | 1.622                             | 1.460 | 0.649 | 0.154                             | 0.139 | 0.062 |
| TPSV686*025#0150                 | V         | 68               | 25                | 17            | 6         | 150                   | 1.291                             | 1.162 | 0.516 | 0.194                             | 0.174 | 0.077 |
| TPSV686*025#0200                 | V         | 68               | 25                | 17            | 6         | 200                   | 1.118                             | 1.006 | 0.447 | 0.224                             | 0.201 | 0.089 |
| TPSV107*025#0100                 | V         | 100              | 25                | 25            | 8         | 100                   | 1.581                             | 1.423 | 0.632 | 0.158                             | 0.142 | 0.063 |
| 35 Volt @ 85°C (23 Volt @ 125°C) |           |                  |                   |               |           |                       |                                   |       |       |                                   |       |       |
| TPSA224*035#6000                 | A         | 0.22             | 35                | 0.5           | 4         | 6000                  | 0.112                             | 0.101 | 0.045 | 0.671                             | 0.604 | 0.268 |
| TPSA334*035#6000                 | A         | 0.33             | 35                | 0.5           | 4         | 6000                  | 0.112                             | 0.101 | 0.045 | 0.671                             | 0.604 | 0.268 |
| TPSA474*035#6000                 | A         | 0.47             | 35                | 0.5           | 4         | 6000                  | 0.112                             | 0.101 | 0.045 | 0.671                             | 0.604 | 0.268 |
| TPSB474*035#4000                 | B         | 0.47             | 35                | 0.5           | 4         | 4000                  | 0.146                             | 0.131 | 0.058 | 0.583                             | 0.525 | 0.233 |
| TPSA684*035#6000                 | A         | 0.68             | 35                | 0.5           | 4         | 6000                  | 0.112                             | 0.101 | 0.045 | 0.671                             | 0.604 | 0.268 |
| TPSA105*035#3000                 | A         | 1                | 35                | 0.5           | 4         | 3000                  | 0.158                             | 0.142 | 0.063 | 0.474                             | 0.427 | 0.190 |
| TPSB105*035#2000                 | B         | 1                | 35                | 0.5           | 4         | 2000                  | 0.206                             | 0.186 | 0.082 | 0.412                             | 0.371 | 0.165 |
| TPSB155*035#2500                 | B         | 1.5              | 35                | 0.5           | 6         | 2500                  | 0.184                             | 0.166 | 0.074 | 0.461                             | 0.415 | 0.184 |
| TPSA225*035#1500                 | A         | 2.2              | 35                | 0.8           | 6         | 1500                  | 0.224                             | 0.201 | 0.089 | 0.335                             | 0.302 | 0.134 |
| TPSB225*035#0750                 | B         | 2.2              | 35                | 0.8           | 6         | 750                   | 0.337                             | 0.303 | 0.135 | 0.252                             | 0.227 | 0.101 |
| TPSB225*035#1500                 | B         | 2.2              | 35                | 0.8           | 6         | 1500                  | 0.238                             | 0.214 | 0.095 | 0.357                             | 0.321 | 0.143 |
| TPSB225*035#2000                 | B         | 2.2              | 35                | 0.8           | 6         | 2000                  | 0.206                             | 0.186 | 0.082 | 0.412                             | 0.371 | 0.165 |
| TPSC225*035#1000                 | C         | 2.2              | 35                | 0.8           | 6         | 1000                  | 0.332                             | 0.298 | 0.133 | 0.332                             | 0.298 | 0.133 |
| TPSB335*035#1000                 | B         | 3.3              | 35                | 1.2           | 6         | 1000                  | 0.292                             | 0.262 | 0.117 | 0.292                             | 0.262 | 0.117 |
| TPSC335*035#0700                 | C         | 3.3              | 35                | 1.2           | 6         | 700                   | 0.396                             | 0.357 | 0.159 | 0.277                             | 0.250 | 0.111 |
| TPSB475*035#0700                 | B         | 4.7              | 35                | 1.6           | 6         | 700                   | 0.348                             | 0.314 | 0.139 | 0.244                             | 0.220 | 0.098 |
| TPSB475*035#1500                 | B         | 4.7              | 35                | 1.6           | 6         | 1500                  | 0.238                             | 0.214 | 0.095 | 0.357                             | 0.321 | 0.143 |
| TPSC475*035#0600                 | C         | 4.7              | 35                | 1.6           | 6         | 600                   | 0.428                             | 0.385 | 0.171 | 0.257                             | 0.231 | 0.103 |
| TPSD475*035#0700                 | D         | 4.7              | 35                | 1.6           | 6         | 700                   | 0.463                             | 0.417 | 0.185 | 0.324                             | 0.292 | 0.130 |
| TPSC685*035#0350                 | C         | 6.8              | 35                | 2.4           | 6         | 350                   | 0.561                             | 0.505 | 0.224 | 0.196                             | 0.177 | 0.078 |
| TPSD685*035#0150                 | D         | 6.8              | 35                | 2.4           | 6         | 150                   | 1.000                             | 0.900 | 0.400 | 0.150                             | 0.135 | 0.060 |
| TPSD685*035#0400                 | D         | 6.8              | 35                | 2.4           | 6         | 400                   | 0.612                             | 0.551 | 0.245 | 0.245                             | 0.220 | 0.098 |
| TPSD685*035#0500                 | D         | 6.8              | 35                | 2.4           | 6         | 500                   | 0.548                             | 0.493 | 0.219 | 0.274                             | 0.246 | 0.110 |
| TPSD106*035#0125                 | D         | 10               | 35                | 3.5           | 6         | 125                   | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD106*035#0300                 | D         | 10               | 35                | 3.5           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSE106*035#0200                 | E         | 10               | 35                | 3.5           | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSY106*035#0250                 | Y         | 10               | 35                | 3.5           | 6         | 250                   | 0.707                             | 0.636 | 0.283 | 0.177                             | 0.159 | 0.071 |
| TPSC156*035#0350                 | C         | 15               | 35                | 5.3           | 6         | 350                   | 0.561                             | 0.505 | 0.224 | 0.196                             | 0.177 | 0.078 |
| TPSC156*035#0450                 | C         | 15               | 35                | 5.3           | 6         | 450                   | 0.494                             | 0.445 | 0.198 | 0.222                             | 0.200 | 0.089 |
| TPSD156*035#0100                 | D         | 15               | 35                | 5.3           | 6         | 100                   | 1.225                             | 1.102 | 0.490 | 0.122                             | 0.110 | 0.049 |
| TPSD156*035#0300                 | D         | 15               | 35                | 5.3           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSY156*035#0250                 | Y         | 15               | 35                | 5.3           | 6         | 250                   | 0.707                             | 0.636 | 0.283 | 0.177                             | 0.159 | 0.071 |
| TPSD226*035#0125                 | D         | 22               | 35                | 7.7           | 6         | 125                   | 1.095                             | 0.986 | 0.438 | 0.137                             | 0.123 | 0.055 |
| TPSD226*035#0200                 | D         | 22               | 35                | 7.7           | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD226*035#0300                 | D         | 22               | 35                | 7.7           | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSD226*035#0400                 | D         | 22               | 35                | 7.7           | 6         | 400                   | 0.612                             | 0.551 | 0.245 | 0.245                             | 0.220 | 0.098 |
| TPSE226*035#0125                 | E         | 22               | 35                | 7.7           | 6         | 125                   | 1.149                             | 1.034 | 0.460 | 0.144                             | 0.129 | 0.057 |
| TPSE226*035#0200                 | E         | 22               | 35                | 7.7           | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSE226*035#0300                 | E         | 22               | 35                | 7.7           | 6         | 300                   | 0.742                             | 0.667 | 0.297 | 0.222                             | 0.200 | 0.089 |
| TPSY226*035#0200                 | Y         | 22               | 35                | 7.7           | 6         | 200                   | 0.791                             | 0.712 | 0.316 | 0.158                             | 0.142 | 0.063 |
| TPSD336*035#0200                 | D         | 33               | 35                | 11.6          | 6         | 200                   | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD336*035#0300                 | D         | 33               | 35                | 11.6          | 6         | 300                   | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSE336*035#0100                 | E         | 33               | 35                | 11.6          | 6         | 100                   | 1.285                             | 1.156 | 0.514 | 0.128                             | 0.116 | 0.051 |
| TPSE336*035#0250                 | E         | 33               | 35                | 11.6          | 6         | 250                   | 0.812                             | 0.731 | 0.325 | 0.203                             | 0.183 | 0.081 |
| TPSE336*035#0300                 | E         | 33               | 35                | 11.6          | 6         | 300                   | 0.742                             | 0.667 | 0.297 | 0.222                             | 0.200 | 0.089 |
| TPSV336*035#0200                 | V         | 33               | 35                | 11.6          | 6         | 200                   | 1.118                             | 1.006 | 0.447 | 0.224                             | 0.201 | 0.089 |
| TPSE476*035#0200                 | E         | 47               | 35                | 16.5          | 6         | 200                   | 0.908                             | 0.817 | 0.363 | 0.182                             | 0.163 | 0.073 |
| TPSE476*035#0250                 | E         | 47               | 35                | 16.5          | 6         | 250                   | 0.812                             | 0.731 | 0.325 | 0.203                             | 0.183 | 0.081 |
| TPSV476*035#0150                 | V         | 47               | 35                | 16.5          | 6         | 150                   | 1.291                             | 1.162 | 0.516 | 0.194                             | 0.174 | 0.077 |
| TPSV476*035#0200                 | V         | 47               | 35                | 16.5          | 6         | 200                   | 1.118                             | 1.006 | 0.447 | 0.224                             | 0.201 | 0.089 |
| TPSV686M035#0150                 | V         | 68               | 35                | 23.8          | 6         | 150                   | 1.291                             | 1.162 | 0.516 | 0.194                             | 0.174 | 0.077 |
| TPSV686M035#0200                 | V         | 68               | 35                | 23.8          | 6         | 200                   | 1.118                             | 1.006 | 0.447 | 0.224                             | 0.201 | 0.089 |
| 50 Volt @ 85°C (33 Volt @ 125°C) |           |                  |                   |               |           |                       |                                   |       |       |                                   |       |       |
| TPSA154*050#9000                 | A         | 0.15             | 50                | 0.5           | 4         | 9000                  | 0.091                             | 0.082 | 0.037 | 0.822                             | 0.739 | 0.329 |
| TPSA224*050#7000                 | A         | 0.22             | 50                | 0.5           | 4         | 7000                  | 0.104                             | 0.093 | 0.041 | 0.725                             | 0.652 | 0.290 |

\* Insert K for ±10% and M for ±20% Capacitance Tolerance  
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.

TPS series is MSL level 1 according to J-STD-020C.#

**Standard Plating**  
# **Gold Plating** – Insert R for 7" reel and S for 13" reel  
# **Tin Lead Plating** – Insert A for 7" reel and B for 13" reel  
# **Tin Lead Plating** – Insert H for 7" reel (contact manufacturer)  
# **Tin Lead Plating** – Insert K for 13" reel (contact manufacturer)

**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.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.                         | Case<br>Size | Capacitance<br>( $\mu$ F) | Rated<br>Voltage<br>(V) | DCL<br>( $\mu$ A)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (m $\Omega$ )<br>@100kHz | 100kHz Ripple Current Ratings (A) |       |       | 100kHz Ripple Voltage Ratings (V) |       |       |
|-----------------------------------------|--------------|---------------------------|-------------------------|---------------------------|-----------------|--------------------------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|
|                                         |              |                           |                         |                           |                 |                                      | 25°C                              | 85°C  | 125°C | 25°C                              | 85°C  | 125°C |
| TPSC474*050#2300                        | C            | 0.47                      | 50                      | 0.5                       | 4               | 2300                                 | 0.219                             | 0.197 | 0.087 | 0.503                             | 0.453 | 0.201 |
| TPSC105*050#2500                        | C            | 1                         | 50                      | 0.5                       | 4               | 2500                                 | 0.210                             | 0.189 | 0.084 | 0.524                             | 0.472 | 0.210 |
| TPSC155*050#1500                        | C            | 1.5                       | 50                      | 0.8                       | 6               | 1500                                 | 0.271                             | 0.244 | 0.108 | 0.406                             | 0.366 | 0.162 |
| TPSC155*050#2000                        | C            | 1.5                       | 50                      | 0.8                       | 6               | 2000                                 | 0.235                             | 0.211 | 0.094 | 0.469                             | 0.422 | 0.188 |
| TPSD225*050#1200                        | D            | 2.2                       | 50                      | 1.1                       | 6               | 1200                                 | 0.354                             | 0.318 | 0.141 | 0.424                             | 0.382 | 0.170 |
| TPSD335*050#0800                        | D            | 3.3                       | 50                      | 1.7                       | 6               | 800                                  | 0.433                             | 0.390 | 0.173 | 0.346                             | 0.312 | 0.139 |
| TPSD475*050#0300                        | D            | 4.7                       | 50                      | 2.4                       | 6               | 300                                  | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSD475*050#0500                        | D            | 4.7                       | 50                      | 2.4                       | 6               | 500                                  | 0.548                             | 0.493 | 0.219 | 0.274                             | 0.246 | 0.110 |
| TPSD475*050#0700                        | D            | 4.7                       | 50                      | 2.4                       | 6               | 700                                  | 0.463                             | 0.417 | 0.185 | 0.324                             | 0.292 | 0.130 |
| TPSD685*050#0200                        | D            | 6.8                       | 50                      | 3.4                       | 6               | 200                                  | 0.866                             | 0.779 | 0.346 | 0.173                             | 0.156 | 0.069 |
| TPSD685*050#0300                        | D            | 6.8                       | 50                      | 3.4                       | 6               | 300                                  | 0.707                             | 0.636 | 0.283 | 0.212                             | 0.191 | 0.085 |
| TPSD685*050#0500                        | D            | 6.8                       | 50                      | 3.4                       | 6               | 500                                  | 0.548                             | 0.493 | 0.219 | 0.274                             | 0.246 | 0.110 |
| TPSD685*050#0600                        | D            | 6.8                       | 50                      | 3.4                       | 6               | 600                                  | 0.500                             | 0.450 | 0.200 | 0.300                             | 0.270 | 0.120 |
| TPSE106*050#0400                        | E            | 10                        | 50                      | 5                         | 6               | 400                                  | 0.642                             | 0.578 | 0.257 | 0.257                             | 0.231 | 0.103 |
| TPSE106*050#0500                        | E            | 10                        | 50                      | 5                         | 6               | 500                                  | 0.574                             | 0.517 | 0.230 | 0.287                             | 0.259 | 0.115 |
| TPSE156*050#0250                        | E            | 15                        | 50                      | 7.5                       | 6               | 250                                  | 0.812                             | 0.731 | 0.325 | 0.203                             | 0.183 | 0.081 |
| TPSV156*050#0250                        | V            | 15                        | 50                      | 7.5                       | 6               | 250                                  | 1.000                             | 0.900 | 0.400 | 0.250                             | 0.225 | 0.100 |
| <b>63 Volt @ 85°C (42 Volt @ 125°C)</b> |              |                           |                         |                           |                 |                                      |                                   |       |       |                                   |       |       |
| TPSE106*063#0500                        | E            | 10                        | 63                      | 6.3                       | 6               | 500                                  | 0.574                             | 0.517 | 0.230 | 0.287                             | 0.259 | 0.115 |

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