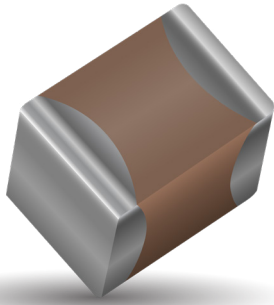


# C0G (NP0) Dielectric

## General Specifications



C0G (NP0) is the most popular formulation of the “temperature-compensating,” EIA Class I ceramic materials. Modern C0G (NP0) formulations contain neodymium, samarium and other rare earth oxides. C0G (NP0) ceramics offer one of the most stable capacitor dielectrics available. Capacitance change with temperature is  $0 \pm 30 \text{ ppm}/^\circ\text{C}$  which is less than  $\pm 0.3\%$  C from  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$ . Capacitance drift or hysteresis for C0G (NP0) ceramics is negligible at less than  $\pm 0.05\%$  versus up to  $\pm 2\%$  for films. Typical capacitance change with life is less than  $\pm 0.1\%$  for C0G (NP0), one-fifth that shown by most other dielectrics. C0G (NP0) formulations show no aging characteristics.

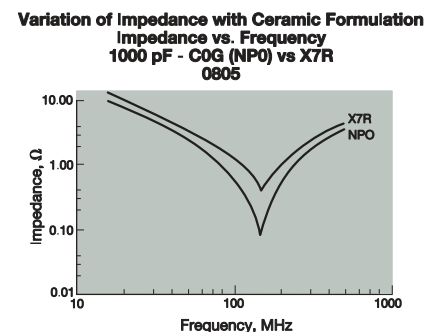
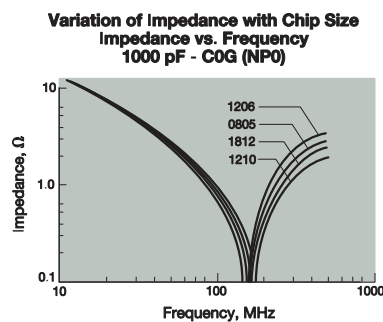
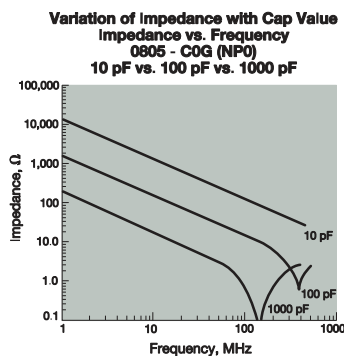
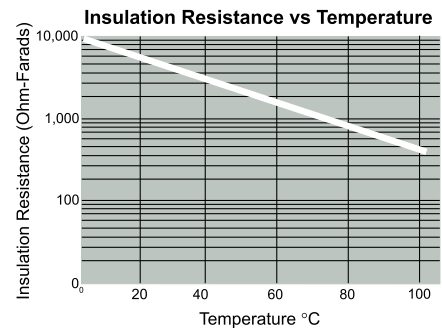
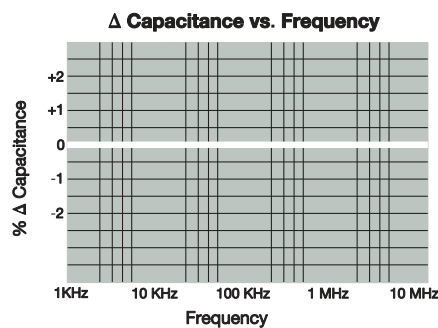
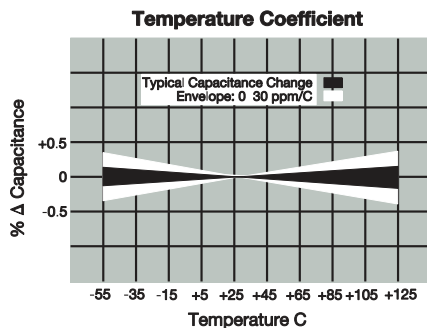
## PART NUMBER (see page 4 for complete part number explanation)



| 0805                     | 5                                                                                                                      | A                                  | 101                                                                | J                                                                                                                                                                                                                                                                                                      | A                                         | T                                                                                                                                               | 2                                                                     | A                                       |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------|
| <b>Size</b><br>(L" x W") | <b>Voltage</b><br>6.3V = 6<br>10V = Z<br>16V = Y<br>25V = 3<br>50V = 5<br>100V = 1<br>200V = 2<br>250V = V<br>500V = 7 | <b>Dielectric</b><br>C0G (NP0) = A | <b>Capacitance Code (In pF)</b><br>2 Sig. Digits + Number of Zeros | <b>Capacitance Tolerance</b><br>B = $\pm 10 \text{ pF}$ ( $< 10 \text{ pF}$ )<br>C = $\pm 25 \text{ pF}$ ( $< 10 \text{ pF}$ )<br>D = $\pm 50 \text{ pF}$ ( $< 10 \text{ pF}$ )<br>F = $\pm 1\%$ ( $\geq 10 \text{ pF}$ )<br>G = $\pm 2\%$ ( $\geq 10 \text{ pF}$ )<br>J = $\pm 5\%$<br>K = $\pm 10\%$ | <b>Failure Rate</b><br>A = Not Applicable | <b>Terminations</b><br>T = Plated Ni and Sn<br><br><b>Contact Factory For</b><br>1 = Pd/Ag Term<br>7 = Gold Plated<br><b>NOT RoHS COMPLIANT</b> | <b>Packaging</b><br>2 = 7" Reel<br>4 = 13" Reel<br>U = 4mm TR (01005) | <b>Special Code</b><br>A = Std. Product |

Contact Factory For Multiples

NOTE: Contact factory for availability of Termination and Tolerance Options for Specific Part Numbers. Contact factory for non-specified capacitance values.

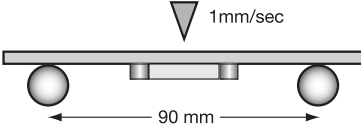


The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

# COG (NP0) Dielectric

## Specifications and Test Methods



| Parameter/Test                 |                       | NP0 Specification Limits                                                                                  | Measuring Conditions                                                                                                                                                                                                                   |                    |
|--------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Operating Temperature Range    |                       | -55°C to +125°C                                                                                           | Temperature Cycle Chamber                                                                                                                                                                                                              |                    |
| Capacitance                    |                       | Within specified tolerance                                                                                | Freq.: 1.0 MHz $\pm$ 10% for cap $\leq$ 1000 pF<br>1.0 kHz $\pm$ 10% for cap $>$ 1000 pF<br>Voltage: 1.0Vrms $\pm$ .2V                                                                                                                 |                    |
| Q                              |                       | $<30$ pF: $Q \geq 400+20 \times \text{Cap Value}$<br>$\geq 30$ pF: $Q \geq 1000$                          |                                                                                                                                                                                                                                        |                    |
| Insulation Resistance          |                       | 100,000M $\Omega$ or 1000M $\Omega$ - $\mu$ F, whichever is less                                          | Charge device with rated voltage for 60 $\pm$ 5 secs @ room temp/humidity                                                                                                                                                              |                    |
| Dielectric Strength            |                       | No breakdown or visual defects                                                                            | Charge device with 250% of rated voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max)<br>Note: Charge device with 150% of rated voltage for 500V devices.                                                    |                    |
| Resistance to Flexure Stresses | Appearance            | No defects                                                                                                | <div>                         Deflection: 2mm<br/>                         Test Time: 30 seconds<br/>  </div>                                       |                    |
|                                | Capacitance Variation | $\pm 5\%$ or $\pm 5$ pF, whichever is greater                                                             |                                                                                                                                                                                                                                        |                    |
|                                | Q                     | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |
|                                | Insulation Resistance | $\geq$ Initial Value $\times$ 0.3                                                                         |                                                                                                                                                                                                                                        |                    |
| Solderability                  |                       | $\geq 95\%$ of each terminal should be covered with fresh solder                                          | Dip device in eutectic solder at 230 $\pm$ 5°C for 5.0 $\pm$ 0.5 seconds                                                                                                                                                               |                    |
| Resistance to Solder Heat      | Appearance            | No defects, $<25\%$ leaching of either end terminal                                                       | Dip device in eutectic solder at 260°C for 60sec- onds. Store at room temperature for 24 $\pm$ 2 hours before measuring electrical properties.                                                                                         |                    |
|                                | Capacitance Variation | $\leq \pm 2.5\%$ or $\pm 25$ pF, whichever is greater                                                     |                                                                                                                                                                                                                                        |                    |
|                                | Q                     | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |
|                                | Insulation Resistance | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |
|                                | Dielectric Strength   | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |
| Thermal Shock                  | Appearance            | No visual defects                                                                                         | Step 1: -55°C $\pm$ 2°                                                                                                                                                                                                                 | 30 $\pm$ 3 minutes |
|                                | Capacitance Variation | $\leq \pm 2.5\%$ or $\pm 25$ pF, whichever is greater                                                     | Step 2: Room Temp                                                                                                                                                                                                                      | $\leq 3$ minutes   |
|                                | Q                     | Meets Initial Values (As Above)                                                                           | Step 3: +125°C $\pm$ 2°                                                                                                                                                                                                                | 30 $\pm$ 3 minutes |
|                                | Insulation Resistance | Meets Initial Values (As Above)                                                                           | Step 4: Room Temp                                                                                                                                                                                                                      | $\leq 3$ minutes   |
|                                | Dielectric Strength   | Meets Initial Values (As Above)                                                                           | Repeat for 5 cycles and measure after 24 hours at room temperature                                                                                                                                                                     |                    |
| Load Life                      | Appearance            | No visual defects                                                                                         | Charge device with twice rated voltage in test chamber set at 125°C $\pm$ 2°C for 1000 hours (+48, -0).<br><br>Remove from test chamber and stabilize at room temperature for 24 hours before measuring.                               |                    |
|                                | Capacitance Variation | $\leq \pm 3.0\%$ or $\pm .3$ pF, whichever is greater                                                     |                                                                                                                                                                                                                                        |                    |
|                                | Q<br>(C=Nominal Cap)  | $\geq 30$ pF: $Q \geq 350$<br>$\geq 10$ pF, $<30$ pF: $Q \geq 275 + 5C/2$<br>$<10$ pF: $Q \geq 200 + 10C$ |                                                                                                                                                                                                                                        |                    |
|                                | Insulation Resistance | $\geq$ Initial Value $\times$ 0.3 (See Above)                                                             |                                                                                                                                                                                                                                        |                    |
|                                | Dielectric Strength   | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |
| Load Humidity                  | Appearance            | No visual defects                                                                                         | Store in a test chamber set at 85°C $\pm$ 2°C/ 85% $\pm$ 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.<br><br>Remove from chamber and stabilize at room temperature for 24 $\pm$ 2 hours before measuring. |                    |
|                                | Capacitance Variation | $\leq \pm 5.0\%$ or $\pm .5$ pF, whichever is greater                                                     |                                                                                                                                                                                                                                        |                    |
|                                | Q                     | $\geq 30$ pF: $Q \geq 350$<br>$\geq 10$ pF, $<30$ pF: $Q \geq 275 + 5C/2$<br>$<10$ pF: $Q \geq 200 + 10C$ |                                                                                                                                                                                                                                        |                    |
|                                | Insulation Resistance | $\geq$ Initial Value $\times$ 0.3 (See Above)                                                             |                                                                                                                                                                                                                                        |                    |
|                                | Dielectric Strength   | Meets Initial Values (As Above)                                                                           |                                                                                                                                                                                                                                        |                    |

C0G (NP0) Dielectric

Capacitance Range

AVX®

PREFERRED SIZES ARE SHADED

| SIZE         |       | 0101*            |  | 0201            |    | 0402            |    | 0603            |    |    |    | 0805            |     |    |    |    | 1206            |     |     |    |    |    |     |     |     |     |   |
|--------------|-------|------------------|--|-----------------|----|-----------------|----|-----------------|----|----|----|-----------------|-----|----|----|----|-----------------|-----|-----|----|----|----|-----|-----|-----|-----|---|
| Soldering    |       | Reflow Only      |  | Reflow Only     |    | Reflow/Wave     |    | Reflow/Wave     |    |    |    | Reflow/Wave     |     |    |    |    | Reflow/Wave     |     |     |    |    |    |     |     |     |     |   |
| Packaging    |       | All Paper        |  | All Paper       |    | All Paper       |    | All Paper       |    |    |    | Paper/Embossed  |     |    |    |    | Paper/Embossed  |     |     |    |    |    |     |     |     |     |   |
| (L) Length   | mm    | 0.40 ± 0.02      |  | 0.60 ± 0.09     |    | 1.00 ± 0.10     |    | 1.60 ± 0.15     |    |    |    | 2.01 ± 0.20     |     |    |    |    | 3.20 ± 0.20     |     |     |    |    |    |     |     |     |     |   |
|              | (in.) | (0.016 ± 0.0008) |  | (0.024 ± 0.004) |    | (0.040 ± 0.004) |    | (0.063 ± 0.006) |    |    |    | (0.079 ± 0.008) |     |    |    |    | (0.126 ± 0.008) |     |     |    |    |    |     |     |     |     |   |
| W) Width     | mm    | 0.20 ± 0.02      |  | 0.30 ± 0.09     |    | 0.50 ± 0.10     |    | 0.81 ± 0.15     |    |    |    | 1.25 ± 0.20     |     |    |    |    | 1.60 ± 0.20     |     |     |    |    |    |     |     |     |     |   |
|              | (in.) | (0.008 ± 0.0008) |  | (0.011 ± 0.004) |    | (0.020 ± 0.004) |    | (0.032 ± 0.006) |    |    |    | (0.049 ± 0.008) |     |    |    |    | (0.063 ± 0.008) |     |     |    |    |    |     |     |     |     |   |
| (t) Terminal | mm    | 0.10 ± 0.04      |  | 0.15 ± 0.05     |    | 0.25 ± 0.15     |    | 0.35 ± 0.15     |    |    |    | 0.50 ± 0.25     |     |    |    |    | 0.50 ± 0.25     |     |     |    |    |    |     |     |     |     |   |
|              | (in.) | (0.004 ± 0.0016) |  | (0.006 ± 0.002) |    | (0.010 ± 0.006) |    | (0.014 ± 0.006) |    |    |    | (0.020 ± 0.010) |     |    |    |    | (0.020 ± 0.010) |     |     |    |    |    |     |     |     |     |   |
| WVDC         |       | 16               |  | 25              | 50 | 16              | 25 | 50              | 16 | 25 | 50 | 100             | 200 | 16 | 25 | 50 | 100             | 200 | 250 | 16 | 25 | 50 | 100 | 200 | 250 | 500 |   |
| Cap (pF)     | 0.5   |                  |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 1.0   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 1.2   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 1.5   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 1.8   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 2.2   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 2.7   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 3.3   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 3.9   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 4.7   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 5.6   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 6.8   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              | 8.2   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 10    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 12    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 15    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 18    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 22    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 27    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 33    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 39    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 47    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 56    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 68    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 82    | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 100   | B                |  | A               | A  | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 120   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 150   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 180   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 220   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              | 270   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   | G  | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   | J   | J |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 330   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   | N  | J  | J  | J   | J   | J   |     | M |
|              | 390   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | M |
|              | 470   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | M |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 560   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | M |
|              | 680   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     | P |
|              | 820   |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     |   |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 1000  |                  |  |                 |    | C               | C  | C               | G  | G  | G  | G               | G   |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     |   |
|              | 1200  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | J  | J  | J               | J   | J   |    | J  | J  | J   | J   | J   |     |   |
|              | 1500  |                  |  |                 |    |                 |    |                 | G  | G  | G  | G               |     |    | J  | J  | J               | J   | J   |    | J  | J  | J   | M   | Q   |     |   |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 1800  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | J  | J  | J               | N   |     |    | J  | J  | M   | M   | Q   |     |   |
|              | 2200  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | N  | N  | N               | N   |     |    | J  | J  | M   | P   | Q   |     |   |
|              | 2700  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | N  | N  | N               | N   |     |    | J  | J  | M   | P   | Q   |     |   |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 3300  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | P  | N  | N               | N   |     |    | J  | J  | M   | P   |     |     |   |
|              | 3900  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | P  | P  | P               | N   |     |    | J  | J  | M   | P   |     |     |   |
|              | 4700  |                  |  |                 |    |                 |    |                 | G  | G  | G  |                 |     |    | P  | P  | P               | N   |     |    | J  | J  | M   | P   |     |     |   |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 5600  |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    | J  | J  | M   | P   |     |     |   |
|              | 6800  |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    | M  | M  | M   | P   |     |     |   |
|              | 8200  |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    | M  | M  | M   | P   |     |     |   |
|              |       |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
| Cap (µF)     | 0.010 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    | P  | P  | P   |     |     |     |   |
|              | 0.012 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    |    |    |     |     |     |     |   |
|              | 0.015 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    |    |    |     |     |     |     |   |
|              | 0.018 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    |    |    |     |     |     |     |   |
|              | 0.022 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    |    |    |     |     |     |     |   |
|              | 0.027 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    | P  | P  | P               |     |     |    |    |    |     |     |     |     |   |
|              | 0.033 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 0.039 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 0.047 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 0.068 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 0.082 |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
|              | 0.1   |                  |  |                 |    |                 |    |                 |    |    |    |                 |     |    |    |    |                 |     |     |    |    |    |     |     |     |     |   |
| WVDC         |       | 16               |  | 25              | 50 | 16              | 25 | 50              | 16 | 25 | 50 | 100             | 200 | 16 | 25 | 50 | 100             | 200 | 250 | 16 | 25 | 50 | 100 | 200 | 250 | 500 |   |
| SIZE         |       | 0101*            |  | 0201            |    | 0402            |    | 0603            |    |    |    | 0805            |     |    |    |    | 1206            |     |     |    |    |    |     |     |     |     |   |

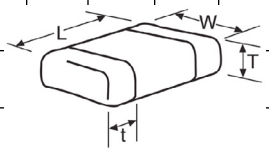
Letter

Max. Thickness

|                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |  |  |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|
| A               | B               | C               | E               | G               | J               | K               | M               | N               | P               | Q               | X               | Y               | Z               |  |  |
| 0.33<br>(0.013) | 0.22<br>(0.009) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.90<br>(0.035) | 0.94<br>(0.037) | 1.02<br>(0.040) | 1.27<br>(0.050) | 1.40<br>(0.055) | 1.52<br>(0.060) | 1.78<br>(0.070) | 2.29<br>(0.090) | 2.54<br>(0.100) | 2.79<br>(0.110) |  |  |
| PAPER           |                 |                 |                 |                 |                 | EMBOSSD         |                 |                 |                 |                 |                 |                 |                 |  |  |

PREFERRED SIZES ARE SHADED

| SIZE           |       | 1210            |                 |                 |                 |                 | 1812            |                 |                 |                 |                 | 1825            |                 |                 |                 | 2220            |     |    |     | 2225            |  |  |  |
|----------------|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|----|-----|-----------------|--|--|--|
| Soldering      |       | Reflow Only     |                 |                 |                 |                 | Reflow Only     |                 |                 |                 |                 | Reflow Only     |                 |                 |                 | Reflow Only     |     |    |     | Reflow Only     |  |  |  |
| Packaging      |       | Paper/Embossed  |                 |                 |                 |                 | All Embossed    |                 |                 |                 |                 | All Embossed    |                 |                 |                 | All Embossed    |     |    |     | All Embossed    |  |  |  |
| (L) Length     | mm    | 3.20 ± 0.20     |                 |                 |                 |                 | 4.50 ± 0.30     |                 |                 |                 |                 | 4.50 ± 0.30     |                 |                 |                 | 5.70 ± 0.40     |     |    |     | 5.72 ± 0.25     |  |  |  |
|                | (in.) | (0.126 ± 0.008) |                 |                 |                 |                 | (0.177 ± 0.012) |                 |                 |                 |                 | (0.177 ± 0.012) |                 |                 |                 | (0.225 ± 0.016) |     |    |     | (0.225 ± 0.010) |  |  |  |
| (W) Width      | mm    | 2.50 ± 0.20     |                 |                 |                 |                 | 3.20 ± 0.20     |                 |                 |                 |                 | 6.40 ± 0.40     |                 |                 |                 | 5.00 ± 0.40     |     |    |     | 6.35 ± 0.25     |  |  |  |
|                | (in.) | (0.098 ± 0.008) |                 |                 |                 |                 | (0.126 ± 0.008) |                 |                 |                 |                 | (0.252 ± 0.016) |                 |                 |                 | (0.197 ± 0.016) |     |    |     | (0.250 ± 0.010) |  |  |  |
| (t) Terminal   | mm    | 0.50 ± 0.25     |                 |                 |                 |                 | 0.61 ± 0.36     |                 |                 |                 |                 | 0.61 ± 0.36     |                 |                 |                 | 0.64 ± 0.39     |     |    |     | 0.64 ± 0.39     |  |  |  |
|                | (in.) | (0.020 ± 0.010) |                 |                 |                 |                 | (0.024 ± 0.014) |                 |                 |                 |                 | (0.024 ± 0.014) |                 |                 |                 | (0.025 ± 0.015) |     |    |     | (0.025 ± 0.015) |  |  |  |
|                | WVDC  | 25              | 50              | 100             | 200             | 500             | 25              | 50              | 100             | 200             | 500             | 50              | 100             | 200             | 50              | 100             | 200 | 50 | 100 | 200             |  |  |  |
| Cap (pF)       | 0.5   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 1.0   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 1.2   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 1.5   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 1.8   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 2.2   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 2.7   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 3.3   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 3.9   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 4.7   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 5.6   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 6.8   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 8.2   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 10    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 12    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 15    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 18    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 22    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 27    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 33    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 39    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 47    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 56    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 68    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 82    |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 100   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 120   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 150   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 180   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 220   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 270   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 330   |                 |                 |                 |                 | J               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 390   |                 |                 |                 |                 | M               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 470   |                 |                 |                 |                 | M               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 560   | J               | J               | J               | J               | M               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 680   | J               | J               | J               | K               | P               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 820   | J               | J               | J               | K               | P               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |
|                | 1000  | J               | J               | P               | P               | P               | K               | K               | N               | N               | M               | M               | M               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 1200  | P               | P               | P               | P               | P               | K               | K               | N               | N               | M               | M               | M               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 1500  | P               | P               | P               | P               | P               | K               | K               | N               | N               | M               | M               | M               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 1800  | P               | P               | P               | P               | P               | K               | K               | N               | N               | M               | M               | M               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 2200  | P               | P               | P               | P               | N               | K               | K               | N               | N               | P               | X               | X               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 2700  | P               | P               | P               | P               |                 | K               | K               | N               | P               | Q               | X               | X               | M               |                 |                 |     | M  | M   | P               |  |  |  |
|                | 3300  | P               | P               | P               | P               |                 | K               | K               | N               | P               | Q               | X               | X               | X               |                 |                 | X   | M  | M   | P               |  |  |  |
|                | 3900  | P               | P               | P               |                 |                 | K               | K               | N               | P               | Q               | X               | X               | X               |                 |                 | X   | M  | M   | P               |  |  |  |
|                | 4700  | P               | P               | P               |                 |                 | K               | K               | N               | P               | Y               | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
|                | 5600  | P               | P               | P               |                 |                 | K               | K               | P               | P               | Y               | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
|                | 6800  | P               | P               | P               |                 |                 | K               | K               | Q               | Q               |                 | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
|                | 8200  | P               | P               |                 |                 |                 | K               | M               | Q               | Q               |                 | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
| Cap (pF)       | 0.010 | N               | N               |                 |                 |                 | K               | M               | Q               | Q               |                 | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
|                | 0.012 | N               | N               |                 |                 |                 | K               | M               | Q               |                 |                 | X               | X               | X               |                 | X               | X   | M  | M   | P               |  |  |  |
|                | 0.015 |                 |                 |                 |                 |                 | P               | P               | Q               |                 |                 | X               | X               | X               |                 | X               | X   | M  | M   | Y               |  |  |  |
|                | 0.018 |                 |                 |                 |                 |                 | P               | P               | Q               |                 |                 | X               | X               | X               |                 | X               | X   | M  | M   | Y               |  |  |  |
|                | 0.022 |                 |                 |                 |                 |                 | P               | P               | Q               |                 |                 | X               | X               | X               |                 | X               | X   | M  | Y   | Y               |  |  |  |
|                | 0.027 |                 |                 |                 |                 |                 | Q               | Q               | X               |                 |                 | X               | X               | Y               |                 | X               | X   | P  | Y   | Y               |  |  |  |
|                | 0.033 |                 |                 |                 |                 |                 | Q               | Q               | X               |                 |                 | X               | X               |                 |                 | X               | X   | X  | Y   | Y               |  |  |  |
|                | 0.039 |                 |                 |                 |                 |                 | X               | X               | X               |                 |                 | X               |                 |                 |                 | Y               |     | X  | Y   | Y               |  |  |  |
|                | 0.047 |                 |                 |                 |                 |                 | X               | X               | X               |                 |                 | X               |                 |                 |                 | Y               |     | X  | Z   |                 |  |  |  |
|                | 0.068 |                 |                 |                 |                 |                 | Z               | Z               | Y               |                 |                 |                 |                 |                 |                 | Z               |     | X  | Z   |                 |  |  |  |
|                | 0.082 |                 |                 |                 |                 |                 | Z               | Z               | Y               |                 |                 |                 |                 |                 |                 | Z               |     | X  | Z   |                 |  |  |  |
|                | 0.1   |                 |                 |                 |                 |                 | Z               | Z               | Z               |                 |                 |                 |                 |                 |                 | Z               |     | X  | Z   |                 |  |  |  |
|                | WVDC  | 25              | 50              | 100             | 200             | 500             | 25              | 50              | 100             | 200             | 500             | 50              | 100             | 200             | 50              | 100             | 200 | 50 | 100 | 200             |  |  |  |
| SIZE           |       | 1210            |                 |                 |                 |                 | 1812            |                 |                 |                 |                 | 1825            |                 |                 |                 | 2220            |     |    |     | 2225            |  |  |  |
| Letter         |       | A               | B               | C               | E               | G               | J               | K               | M               | N               | P               | Q               | X               | Y               | Z               |                 |     |    |     |                 |  |  |  |
| Max. Thickness |       | 0.33<br>(0.013) | 0.22<br>(0.009) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.90<br>(0.035) | 0.94<br>(0.037) | 1.02<br>(0.040) | 1.27<br>(0.050) | 1.40<br>(0.055) | 1.52<br>(0.060) | 1.78<br>(0.070) | 2.29<br>(0.090) | 2.54<br>(0.100) | 2.79<br>(0.110) |                 |     |    |     |                 |  |  |  |
|                |       | PAPER           |                 |                 |                 |                 |                 | EMBOSSED        |                 |                 |                 |                 |                 |                 |                 |                 |     |    |     |                 |  |  |  |



## IMPORTANT INFORMATION/DISCLAIMER

All product specifications, statements, information and data (collectively, the “Information”) in this datasheet or made available on the website are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on AVX’s knowledge of typical operating conditions for such applications, but are not intended to constitute and AVX specifically disclaims any warranty concerning suitability for a specific customer application or use.

**ANY USE OF PRODUCT OUTSIDE OF SPECIFICATIONS OR ANY STORAGE OR INSTALLATION INCONSISTENT WITH PRODUCT GUIDANCE VOIDS ANY WARRANTY.**

The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by AVX with reference to the use of AVX’s products is given without regard, and AVX assumes no obligation or liability for the advice given or results obtained.

Although AVX designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Unless specifically agreed to in writing, AVX has not tested or certified its products, services or deliverables for use in high risk applications including medical life support, medical device, direct physical patient contact, water treatment, nuclear facilities, weapon systems, mass and air transportation control, flammable environments, or any other potentially life critical uses. Customer understands and agrees that AVX makes no assurances that the products, services or deliverables are suitable for any high-risk uses. Under no circumstances does AVX warrant or guarantee suitability for any customer design or manufacturing process.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## AVX:

[08055A330KAT4A](#) [08055A330MAT2A](#) [08055A331FAT2A](#) [08055A331FAT4A](#) [08055A331GAT2A](#) [08055A331JAT2A](#)  
[08055A331JAT4A](#) [08055A331KAT2A](#) [08055A331KAT4A](#) [08055A332JAT2A](#) [08055A360GAT2A](#) [08055A360JAT2A](#)  
[08055A390FAT2A](#) [08055A390FAT4A](#) [08055A390GAT2A](#) [08055A390JAT2A](#) [08055A390JAT4A](#) [08055A390KAT2A](#)  
[08055A390KAT4A](#) [08055A391FAT2A](#) [08055A391FAT4A](#) [08055A391GAT2A](#) [08055A391JAT2A](#) [08055A391JAT4A](#)  
[08055A391KAT2A](#) [08055A391KAT4A](#) [08055A392JAT2A](#) [08055A3R0CAT2A](#) [08055A3R3BAT2A](#) [08055A3R3CAT2A](#)  
[08055A0R5BAT2A](#) [08055A0R5CAT2A](#) [08055A100BAT2A](#) [08055A100CAT2A](#) [08055A100CAT4A](#)  
[08055A100DAT2A](#) [08055A100DAT4A](#) [08055A100FAT2A](#) [08055A100JAT2A](#) [08055A101FAT2A](#) [08055A101FAT4A](#)  
[08055A101GAT2A](#) [08055A101JAJ2A](#) [08055A101JAT2A](#) [08055A101JAT4A](#) [08055A101KAT2A](#) [08055A101KAT4A](#)  
[08055A101MAT2A](#) [08055A102FAT2A](#) [08055A102GAT2A](#) [08055A102JAT2A](#) [08055A102JAT4A](#) [08055A102JBT1A](#)  
[08055A102KAT2A](#) [08055A102KAT4A](#) [08055A102KBT1A](#) [08055A110JAT2A](#) [08055A120CAT2A](#) [08055A120JAT2A](#)  
[08055A121FAT2A](#) [08055A121FAT4A](#) [08055A121JAT2A](#) [08055A121JAT4A](#) [08055A121KAT2A](#) [08055A121KAT4A](#)  
[08055A122FAT2A](#) [08055A122FAT4A](#) [08055A122JAT2A](#) [08055A122JAT4A](#) [08055A122KAT2A](#) [08055A131JAT2A](#)  
[08055A132JAT2A](#) [08055A150GAT2A](#) [08055A150JAT2A](#) [08055A150JAT4A](#) [08055A151FAT2A](#) [08055A151FAT4A](#)  
[08055A151GAT2A](#) [08055A151JAT2A](#) [08055A151JAT4A](#) [08055A151KAT2A](#) [08055A151KAT4A](#) [08055A6R8DAT2A](#)  
[08055A6R8DAT4A](#) [08055A750FAT2A](#) [08055A750JAT2A](#) [08055A751JAT2A](#) [08055A7R5CAT2A](#) [08055A7R5DAT2A](#)  
[08055A820FAT2A](#) [08055A820FAT4A](#) [08055A820JAT2A](#) [08055A820JAT4A](#) [08055A820KAT2A](#) [08055A820KAT4A](#)  
[08055A821FAT2A](#) [08055A821FAT4A](#) [08055A821JAT2A](#) [08055A821KAT2A](#) [08055A821KAT4A](#)