

# TBJ Series



## CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level



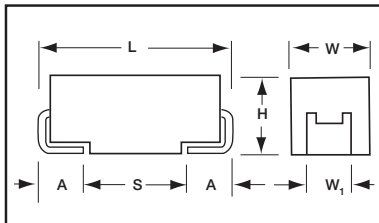
Fully qualified to MIL-PRF-55365/8, the CWR11 is the military version of EIA-535BAAC, with four case sizes designed for maximum packaging efficiency on 8mm & 12mm tape for high volume production (ensuring no TCE mismatch with any substrate). This construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques. The part also carries full polarity, capacitance / voltage and JAN brand marking.

For Space Level applications, AVX SRC9000 qualification is recommended (see ratings table for part number availability).

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365).

The molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.

The series is qualified to MIL-PRF-55365 Weibull "B", "C", "D" and "T" levels, with all surge options ("A", "B" & "C") available.



### MARKING

(Brown marking on gold body)



Polarity Stripe (+)

"J" for "JAN" Brand Capacitance Code

Rated Voltage  
Manufacturer's ID

### CASE DIMENSIONS: millimeters (inches)

| Case Code | EIA Metric | Length (L)                 | Width (W)                  | Height (H)                 | Term. Width (W <sub>1</sub> ) ±0.10 (±0.004) | Term. Length A ±0.30(±0.012) | S min        |
|-----------|------------|----------------------------|----------------------------|----------------------------|--|------------------------------|--------------|
| A         | 3216-18    | 3.20±0.20<br>(0.126±0.008) | 1.60±0.20<br>(0.063±0.008) | 1.60±0.20<br>(0.063±0.008) | 1.20 (0.047)                                 | 0.80 (0.031)                 | 1.80 (0.071) |
| B         | 3528-21    | 3.50±0.20<br>(0.138±0.008) | 2.80±0.20<br>(0.110±0.008) | 1.90±0.20<br>(0.075±0.008) | 2.20 (0.087)                                 | 0.80 (0.031)                 | 1.40 (0.055) |
| C         | 6032-28    | 6.00±0.30<br>(0.236±0.012) | 3.20±0.30<br>(0.126±0.012) | 2.50±0.30<br>(0.098±0.012) | 2.20 (0.087)                                 | 1.30 (0.051)                 | 2.90 (0.114) |
| D         | 7343-31    | 7.30±0.30<br>(0.287±0.012) | 4.30±0.30<br>(0.169±0.012) | 2.80±0.30<br>(0.110±0.012) | 2.40 (0.094)                                 | 1.30 (0.051)                 | 4.40 (0.173) |

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (MIL VOLTAGE CODE) RANGE CASE SIZE

| Capacitance |      | Rated voltage DC (V <sub>R</sub> ) to 85°C |        |         |         |         |         |         |         |
|-------------|------|--|--------|---------|---------|---------|---------|---------|---------|
| μF          | Code | 4V (C)                                     | 6V (D) | 10V (F) | 15V (H) | 20V (J) | 25V (K) | 35V (M) | 50V (N) |
| 0.10        | 104  |  |        |         |         |         |         | A       | A       |
| 0.15        | 154  |  |        |         |         |         |         | A       | B       |
| 0.22        | 224  |  |        |         |         |         |         | A       | B       |
| 0.33        | 334  |  |        |         |         |         | A       | A       | B       |
| 0.47        | 474  |  |        |         |         | A       | A       | B       | C       |
| 0.68        | 684  |  |        |         | A       | A       | B       | B       | C       |
| 1.0         | 105  |  |        | A       | A       | A       | B       | B       | C       |
| 1.5         | 155  |  | A      | A       | A       | B       | B       | C       | D       |
| 2.2         | 225  | A  | A      | A       | B       | B       | C       | C       | D       |
| 3.3         | 335  |  | A      | B       | B       | B       | C       | C       | D       |
| 4.7         | 475  | A  | B      | B       | B       | C       | C       | D       | D       |
| 6.8         | 685  | B  | B      | B       | B       | C       | D       | D       |         |
| 10          | 106  | B  | B      |         | C       |         | D       |         |         |
| 15          | 156  | B  | C      | C       |         | D       | D       |         |         |
| 22          | 226  |  | C      |         | D       | D       |         |         |         |
| 33          | 336  | C  |        | D       | D       |         |         |         |         |
| 47          | 476  |  | D      |         |         |         |         |         |         |
| 68          | 686  | D  | D      |         |         |         |         |         |         |
| 100         | 107  | D  |        |         |         |         |         |         |         |
| 150         | 157  |  |        |         |         |         |         |         |         |
| 220         | 227  |  |        |         |         |         |         |         |         |
| 330         | 337  |  |        |         |         |         |         |         |         |



### HOW TO ORDER

#### COTS-PLUS & MIL QPL (CWR11):

| TBJ         | D                | 686   | *   | 006   | C  | □   | #   | @  | 0  | ^  | ++  |
|-------------|------------------|---|---|---|--|---|---|--|--|--|---|
| <b>Type</b> | <b>Case Size</b> | <b>Capacitance Code</b><br>pF code:<br>1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) | <b>Capacitance Tolerance</b><br>M = ±20%<br>K = ±10%<br>J = ±5% | <b>Voltage Code</b><br>004 = 4Vdc<br>006 = 6Vdc<br>010 = 10Vdc<br>015 = 15Vdc<br>020 = 20Vdc<br>025 = 25Vdc<br>035 = 35Vdc<br>050 = 50Vdc | <b>Standard or Low ESR Range</b><br>C = Std ESR<br>L = Low ESR | <b>Packaging</b><br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 5 for additional packaging options. | <b>Inspection Level</b><br>S = Std. Conformance<br>L = Group A<br><br>M = MIL (JAN) CWR11 | <b>Reliability Grade</b><br>Weibull:<br>B = 0.1%/1000 hrs. 90% conf.<br>C = 0.01%/1000 hrs. 90% conf.<br>D = 0.001%/1000 hrs. 90% conf.<br>T = T Level<br>Z = Non-ER | <b>Qualification Level</b><br>0 = N/A<br>9 = SRC9000 | <b>Termination Finish</b><br>H = Solder Plated<br>0 = Fused Solder Plated<br>8 = Hot Solder Dipped<br>9 = Gold Plated<br>7 = Matte Sn (COTS-Plus only) | <b>Surge Test Option</b><br>00 = None<br>23 = 10 Cycles, +25°C<br>24 = 10 Cycles, -55°C & +85°C<br>45 = 10 cycles, -55°C & +85°C before Weibull |

#### CWR11 P/N CROSS REFERENCE:

| CWR11       | D   | ^   | 686   | *   | @  | +  | □  |
|-------------|---|---|---|---|--|--|--|
| <b>Type</b> | <b>Voltage Code</b><br>C = 4Vdc<br>D = 6Vdc<br>F = 10Vdc<br>H = 15Vdc<br>J = 20Vdc<br>K = 25Vdc<br>M = 35Vdc<br>N = 50Vdc | <b>Termination Finish</b><br>H = Solder Plated<br>K = Solder Fused Dipped<br>C = Hot Solder Dipped<br>B = Gold Plated | <b>Capacitance Code</b><br>pF code:<br>1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) | <b>Capacitance Tolerance</b><br>M = ±20%<br>K = ±10%<br>J = ±5% | <b>Reliability Grade</b><br>Weibull:<br>B = 0.1%/1000 hrs. 90% conf.<br>C = 0.01%/1000 hrs. 90% conf.<br>D = 0.001%/1000 hrs. 90% conf.<br>T = T Level<br>A = Non-ER | <b>Surge Test Option</b><br>A = 10 cycles, +25°C<br>B = 10 cycles, -55°C & +85°C<br>C = 10 cycles, -55°C & +85°C before Weibull<br>If blank, None required | <b>Packaging</b><br>Bulk = Standard<br>TR = 7" T&R<br>TR13 = 13" T&R<br>W = Waffle<br><br>See page 5 for additional packaging options. |

#### SPACE LEVEL OPTIONS TO SRC9000\*:

| TBJ         | D                | 686   | *   | 006   | C  | □   | L                                      | @   | 9   | ^   | ++  |
|-------------|------------------|---|---|---|--|---|--|---|---|---|---|
| <b>Type</b> | <b>Case Size</b> | <b>Capacitance Code</b><br>pF code:<br>1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) | <b>Capacitance Tolerance</b><br>M = ±20%<br>K = ±10%<br>J = ±5% | <b>Voltage Code</b><br>004 = 4Vdc<br>006 = 6Vdc<br>010 = 10Vdc<br>015 = 15Vdc<br>020 = 20Vdc<br>025 = 25Vdc<br>035 = 35Vdc<br>050 = 50Vdc | <b>Standard or Low ESR Range</b><br>C = Std ESR<br>L = Low ESR | <b>Packaging</b><br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 5 for additional packaging options. | <b>Inspection Level</b><br>L = Group A | <b>Reliability Grade</b><br>Weibull:<br>B = 0.1%/1000 hrs. 90% conf.<br>C = 0.01%/1000 hrs. 90% conf.<br>D = 0.001%/1000 hrs. 90% conf. | <b>Qualification Level</b><br>9 = SRC9000 | <b>Termination Finish</b><br>H = Solder Plated<br>0 = Fused Solder Plated<br>8 = Hot Solder Dipped<br>9 = Gold Plated | <b>Surge Test Option</b><br>00 = 10 Cycles, -55°C & +85°C<br>45 = 10 cycles, -55°C & +85°C before Weibull |

\*Contact factory for AVX SRC9000 Space Level SCD details.

### TECHNICAL SPECIFICATIONS

|                                     |   |     |   |    |    |    |    |    |    |  |
|-------------------------------------|---|-----|---|----|----|----|----|----|----|--|
| Technical Data:                     | Unless otherwise specified, all technical data relate to an ambient temperature of 25°C |     |   |    |    |    |    |    |    |  |
| Capacitance Range:                  | 0.1 μF to 100 μF  |     |   |    |    |    |    |    |    |  |
| Capacitance Tolerance:              | ±5%; ±10%; ±20%   |     |   |    |    |    |    |    |    |  |
| Rated Voltage: (V <sub>R</sub> )    | ≤85°C:  | 4   | 6 | 10 | 16 | 20 | 25 | 35 | 50 |  |
| Category Voltage: (V <sub>C</sub> ) | 125°C:  | 2.7 | 4 | 7  | 10 | 13 | 17 | 23 | 33 |  |
| Surge Voltage: (V <sub>S</sub> )    | ≤85°C:  | 5.2 | 8 | 13 | 20 | 26 | 32 | 46 | 65 |  |
|                                     | 125°C:  | 3.4 | 5 | 8  | 13 | 16 | 20 | 28 | 40 |  |
| Temperature Range:                  | -55°C to +125°C   |     |   |    |    |    |    |    |    |  |

# TBJ Series

CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level



| RATING & PART NUMBER REFERENCE |                                |                                  |      | Parametric Specifications by Rating per MIL-PRF-55365/8 |                                     |                                    |               |               |                |              |                  |              |                           | Typical Ripple Data by Rating |               |                |               |                 |               |
|--------------------------------|--------------------------------|----------------------------------|------|---|-------------------------------------|------------------------------------|---------------|---------------|----------------|--------------|------------------|--------------|---------------------------|-------------------------------|---------------|----------------|---------------|-----------------|---------------|
| CWR11 P/N                      | AVX COTS-Plus P/N              | AVX SRC9000 P/N                  | Case | Cap<br>@ 120Hz<br>µF<br>@ 25°C                          | DC Rated<br>Voltage<br>V<br>@ +85°C | ESR @<br>100kHz<br>Ohms<br>@ +25°C | DCL max       |               |                | DF Max       |                  |              | Power<br>Dissipation<br>W | 25°C<br>Ripple                |               | 85°C<br>Ripple |               | 125°C<br>Ripple |               |
|                                |                                |                                  |      |   |                                     |                                    | +25°C<br>(µA) | +85°C<br>(µA) | +125°C<br>(µA) | +25°C<br>(%) | +85/125°C<br>(%) | -55°C<br>(%) |                           | A<br>(100kHz)                 | V<br>(100kHz) | A<br>(100kHz)  | V<br>(100kHz) | A<br>(100kHz)   | V<br>(100kHz) |
| CWR11C*225*0+□                 | TBJA 225 * 004 C □ □ # 0 ^ + + | TBJA 225 * 004 C □ □ L @ 0 ^ + + | A    | 2.2   | 4                                   | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11C*475*0+□                 | TBJA 475 * 004 C □ □ # 0 ^ + + | TBJA 475 * 004 C □ □ L @ 0 ^ + + | A    | 4.7   | 4                                   | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11C*685*0+□                 | TBJB 685 * 004 C □ □ # 0 ^ + + | TBJB 685 * 004 C □ □ L @ 0 ^ + + | B    | 6.8   | 4                                   | 5.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.12                          | 0.11          | 0.05           | 0.68          | 0.62            | 0.27          |
| CWR11C*100*0+□                 | TBJB 106 * 004 C □ □ # 0 ^ + + | TBJB 106 * 004 C □ □ L @ 0 ^ + + | B    | 10  | 4                                   | 4                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.15                          | 0.13          | 0.06           | 0.58          | 0.52            | 0.23          |
| CWR11C*156*0+□                 | TBJB 156 * 004 C □ □ # 0 ^ + + | TBJB 156 * 004 C □ □ L @ 0 ^ + + | B    | 15  | 4                                   | 3.5                                | 0.6           | 6             | 7.2            | 6            | 9                | 9            | 0.085                     | 0.18                          | 0.14          | 0.06           | 0.55          | 0.49            | 0.22          |
| CWR11C*336*0+□                 | TBJC 336 * 004 C □ □ # 0 ^ + + | TBJC 336 * 004 C □ □ L @ 0 ^ + + | C    | 33  | 4                                   | 2.2                                | 1.3           | 13            | 15.6           | 6            | 9                | 9            | 0.110                     | 0.22                          | 0.20          | 0.09           | 0.49          | 0.44            | 0.20          |
| CWR11C*686*0+□                 | TBJD 686 * 004 C □ □ # 0 ^ + + | TBJD 686 * 004 C □ □ L @ 0 ^ + + | D    | 68  | 4                                   | 1.1                                | 2.7           | 27            | 32.4           | 6            | 9                | 9            | 0.150                     | 0.37                          | 0.33          | 0.15           | 0.41          | 0.37            | 0.16          |
| CWR11C*107*0+□                 | TBJD 107 * 004 C □ □ # 0 ^ + + | TBJD 107 * 004 C □ □ L @ 0 ^ + + | D    | 100   | 4                                   | 0.9                                | 4             | 40            | 48             | 8            | 12               | 12           | 0.150                     | 0.41                          | 0.37          | 0.16           | 0.37          | 0.33            | 0.15          |
| CWR11D*155*0+□                 | TBJA 155 * 006 C □ □ # 0 ^ + + | TBJA 155 * 006 C □ □ L @ 0 ^ + + | A    | 1.5   | 6                                   | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11D*225*0+□                 | TBJA 225 * 006 C □ □ # 0 ^ + + | TBJA 225 * 006 C □ □ L @ 0 ^ + + | A    | 2.2   | 6                                   | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11D*335*0+□                 | TBJA 335 * 006 C □ □ # 0 ^ + + | TBJA 335 * 006 C □ □ L @ 0 ^ + + | A    | 3.3   | 6                                   | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11D*475*0+□                 | TBJB 475 * 006 C □ □ # 0 ^ + + | TBJB 475 * 006 C □ □ L @ 0 ^ + + | B    | 4.7   | 6                                   | 5.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.12                          | 0.11          | 0.05           | 0.68          | 0.62            | 0.27          |
| CWR11D*685*0+□                 | TBJB 685 * 006 C □ □ # 0 ^ + + | TBJB 685 * 006 C □ □ L @ 0 ^ + + | B    | 6.8   | 6                                   | 4.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.14                          | 0.12          | 0.05           | 0.62          | 0.56            | 0.25          |
| CWR11D*106*0+□                 | TBJB 106 * 006 C □ □ # 0 ^ + + | TBJB 106 * 006 C □ □ L @ 0 ^ + + | B    | 10  | 6                                   | 3.5                                | 0.6           | 6             | 7.2            | 6            | 9                | 9            | 0.085                     | 0.16                          | 0.14          | 0.06           | 0.55          | 0.49            | 0.22          |
| CWR11D*156*0+□                 | TBJC 156 * 006 C □ □ # 0 ^ + + | TBJC 156 * 006 C □ □ L @ 0 ^ + + | C    | 15  | 6                                   | 3                                  | 0.9           | 9             | 10.8           | 6            | 9                | 9            | 0.110                     | 0.19                          | 0.17          | 0.08           | 0.57          | 0.52            | 0.23          |
| CWR11D*226*0+□                 | TBJC 226 * 006 C □ □ # 0 ^ + + | TBJC 226 * 006 C □ □ L @ 0 ^ + + | C    | 22  | 6                                   | 2.2                                | 1.4           | 14            | 16.8           | 6            | 9                | 9            | 0.110                     | 0.22                          | 0.20          | 0.09           | 0.49          | 0.44            | 0.20          |
| CWR11D*476*0+□                 | TBJD 476 * 006 C □ □ # 0 ^ + + | TBJD 476 * 006 C □ □ L @ 0 ^ + + | D    | 47  | 6                                   | 1.1                                | 2.8           | 28            | 33.6           | 6            | 9                | 9            | 0.150                     | 0.37                          | 0.33          | 0.15           | 0.41          | 0.37            | 0.16          |
| CWR11D*686*0+□                 | TBJD 686 * 006 C □ □ # 0 ^ + + | TBJD 686 * 006 C □ □ L @ 0 ^ + + | D    | 68  | 6                                   | 0.9                                | 4.3           | 43            | 51.6           | 6            | 9                | 9            | 0.150                     | 0.41                          | 0.37          | 0.16           | 0.37          | 0.33            | 0.15          |
| CWR11FA105*0+□                 | TBJA 105 * 010 C □ □ # 0 ^ + + | TBJA 105 * 010 C □ □ L @ 0 ^ + + | A    | 1   | 10                                  | 10                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.09                          | 0.08          | 0.03           | 0.87          | 0.78            | 0.35          |
| CWR11FA155*0+□                 | TBJA 155 * 010 C □ □ # 0 ^ + + | TBJA 155 * 010 C □ □ L @ 0 ^ + + | A    | 1.5   | 10                                  | 8                                  | 0.5           | 5             | 6              | 6            | 6                | 6            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11FA225*0+□                 | TBJA 225 * 010 C □ □ # 0 ^ + + | TBJA 225 * 010 C □ □ L @ 0 ^ + + | A    | 2.2   | 10                                  | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11FA335*0+□                 | TBJB 335 * 010 C □ □ # 0 ^ + + | TBJB 335 * 010 C □ □ L @ 0 ^ + + | B    | 3.3   | 10                                  | 5.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.12                          | 0.11          | 0.05           | 0.68          | 0.62            | 0.27          |
| CWR11FA475*0+□                 | TBJB 475 * 010 C □ □ # 0 ^ + + | TBJB 475 * 010 C □ □ L @ 0 ^ + + | B    | 4.7   | 10                                  | 4.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.14                          | 0.12          | 0.05           | 0.62          | 0.56            | 0.25          |
| CWR11FA685*0+□                 | TBJB 685 * 010 C □ □ # 0 ^ + + | TBJB 685 * 010 C □ □ L @ 0 ^ + + | B    | 6.8   | 10                                  | 3.5                                | 0.7           | 7             | 8.4            | 6            | 9                | 9            | 0.085                     | 0.16                          | 0.14          | 0.06           | 0.55          | 0.49            | 0.22          |
| CWR11FA156*0+□                 | TBJC 156 * 010 C □ □ # 0 ^ + + | TBJC 156 * 010 C □ □ L @ 0 ^ + + | C    | 15  | 10                                  | 2.5                                | 1.5           | 15            | 18             | 6            | 9                | 9            | 0.110                     | 0.21                          | 0.19          | 0.08           | 0.52          | 0.47            | 0.21          |
| CWR11FA336*0+□                 | TBJD 336 * 010 C □ □ # 0 ^ + + | TBJD 336 * 010 C □ □ L @ 0 ^ + + | D    | 33  | 10                                  | 1.1                                | 3.3           | 33            | 39.6           | 6            | 9                | 9            | 0.150                     | 0.37                          | 0.33          | 0.15           | 0.41          | 0.37            | 0.16          |
| CWR11FA476*0+□                 | TBJD 476 * 010 C □ □ # 0 ^ + + | TBJD 476 * 010 C □ □ L @ 0 ^ + + | D    | 47  | 10                                  | 0.9                                | 4.7           | 47            | 56.4           | 6            | 9                | 9            | 0.150                     | 0.41                          | 0.37          | 0.16           | 0.37          | 0.33            | 0.15          |
| CWR11HA684*0+□                 | TBJA 684 * 015 C □ □ # 0 ^ + + | TBJA 684 * 015 C □ □ L @ 0 ^ + + | A    | 0.68  | 15                                  | 12                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.08                          | 0.07          | 0.03           | 0.95          | 0.85            | 0.38          |
| CWR11HA105*0+□                 | TBJA 105 * 015 C □ □ # 0 ^ + + | TBJA 105 * 015 C □ □ L @ 0 ^ + + | A    | 1   | 15                                  | 10                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.09                          | 0.08          | 0.03           | 0.87          | 0.78            | 0.35          |
| CWR11HA155*0+□                 | TBJA 155 * 015 C □ □ # 0 ^ + + | TBJA 155 * 015 C □ □ L @ 0 ^ + + | A    | 1.5   | 15                                  | 8                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                     | 0.10                          | 0.09          | 0.04           | 0.77          | 0.70            | 0.31          |
| CWR11HA225*0+□                 | TBJB 225 * 015 C □ □ # 0 ^ + + | TBJB 225 * 015 C □ □ L @ 0 ^ + + | B    | 2.2   | 15                                  | 5.5                                | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.12                          | 0.11          | 0.05           | 0.68          | 0.62            | 0.27          |
| CWR11HA335*0+□                 | TBJB 335 * 015 C □ □ # 0 ^ + + | TBJB 335 * 015 C □ □ L @ 0 ^ + + | B    | 3.3   | 15                                  | 5                                  | 0.5           | 5             | 6              | 6            | 8                | 9            | 0.085                     | 0.13                          | 0.12          | 0.05           | 0.65          | 0.59            | 0.26          |
| CWR11HA475*0+□                 | TBJB 475 * 015 C □ □ # 0 ^ + + | TBJB 475 * 015 C □ □ L @ 0 ^ + + | B    | 4.7   | 15                                  | 4                                  | 0.7           | 7             | 8.4            | 6            | 9                | 9            | 0.085                     | 0.15                          | 0.13          | 0.06           | 0.58          | 0.52            | 0.23          |
| CWR11HA106*0+□                 | TBJC 106 * 015 C □ □ # 0 ^ + + | TBJC 106 * 015 C □ □ L @ 0 ^ + + | C    | 10  | 15                                  | 2.5                                | 1.6           | 16            | 19.2           | 6            | 8                | 9            | 0.110                     | 0.21                          | 0.19          | 0.08           | 0.52          | 0.47            | 0.21          |
| CWR11HA226*0+□                 | TBJC 226 * 015 C □ □ # 0 ^ + + | TBJC 226 * 015 C □ □ L @ 0 ^ + + | D    | 22  | 15                                  | 1.1                                | 3.3           | 33            | 39.6           | 6            | 8                | 9            | 0.150                     | 0.37                          | 0.33          | 0.15           | 0.41          | 0.37            | 0.16          |
| CWR11HA336*0+□                 | TBJD 336 * 015 C □ □ # 0 ^ + + | TBJD 336 * 015 C □ □ L @ 0 ^ + + | D    | 33  | 15                                  | 0.9                                | 5.3           | 53            | 63.6           | 6            | 9                | 9            | 0.150                     | 0.41                          | 0.37          | 0.16           | 0.37          | 0.33            | 0.15          |
| CWR11JA474*0+□                 | TBJA 474 * 020 C □ □ # 0 ^ + + | TBJA 474 * 020 C □ □ L @ 0 ^ + + | A    | 0.47  | 20                                  | 14                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.07                          | 0.07          | 0.03           | 1.02          | 0.92            | 0.41          |
| CWR11JA684*0+□                 | TBJA 684 * 020 C □ □ # 0 ^ + + | TBJA 684 * 020 C □ □ L @ 0 ^ + + | A    | 0.68  | 20                                  | 12                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.08                          | 0.07          | 0.03           | 0.95          | 0.85            | 0.38          |
| CWR11JA105*0+□                 | TBJA 105 * 020 C □ □ # 0 ^ + + | TBJA 105 * 020 C □ □ L @ 0 ^ + + | A    | 1   | 20                                  | 10                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.09                          | 0.08          | 0.03           | 0.87          | 0.78            | 0.35          |
| CWR11JA155*0+□                 | TBJB 155 * 020 C □ □ # 0 ^ + + | TBJB 155 * 020 C □ □ L @ 0 ^ + + | B    | 1.5   | 20                                  | 6                                  | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.085                     | 0.12                          | 0.11          | 0.05           | 0.71          | 0.64            | 0.29          |
| CWR11JA225*0+□                 | TBJB 225 * 020 C □ □ # 0 ^ + + | TBJB 225 * 020 C □ □ L @ 0 ^ + + | B    | 2.2   | 20                                  | 5                                  | 0.5           | 5             | 6              | 6            | 8                | 9            | 0.085                     | 0.13                          | 0.12          | 0.05           | 0.65          | 0.59            | 0.26          |
| CWR11JA335*0+□                 | TBJB 335 * 020 C □ □ # 0 ^ + + | TBJB 335 * 020 C □ □ L @ 0 ^ + + | B    | 3.3   | 20                                  | 4                                  | 0.7           | 7             | 8.4            | 6            | 9                | 9            | 0.085                     | 0.15                          | 0.13          | 0.06           | 0.58          | 0.52            | 0.23          |
| CWR11JA475*0+□                 | TBJC 475 * 020 C □ □ # 0 ^ + + | TBJC 475 * 020 C □ □ L @ 0 ^ + + | C    | 4.7   | 20                                  | 3                                  | 1             | 10            | 12             | 6            | 8                | 9            | 0.110                     | 0.19                          | 0.17          | 0.08           | 0.57          | 0.52            | 0.23          |
| CWR11JA685*0+□                 | TBJC 685 * 020 C □ □ # 0 ^ + + | TBJC 685 * 020 C □ □ L @ 0 ^ + + | C    | 6.8   | 20                                  | 2.4                                | 1.4           | 14            | 16.8           | 6            | 9                | 9            | 0.110                     | 0.21                          | 0.19          | 0.09           | 0.51          | 0.46            | 0.21          |
| CWR11JA156*0+□                 | TBJD 156 * 020 C □ □ # 0 ^ + + | TBJD 156 * 020 C □ □ L @ 0 ^ + + | D    | 15  | 20                                  | 1.1                                | 3             | 30            | 36             | 6            | 8                | 9            | 0.150                     | 0.37                          | 0.33          | 0.15           | 0.41          | 0.37            | 0.16          |
| CWR11JA226*0+□                 | TBJD 226 * 020 C □ □ # 0 ^ + + | TBJD 226 * 020 C □ □ L @ 0 ^ + + | D    | 22  | 20                                  | 0.9                                | 4.4           | 44            | 52.8           | 6            | 9                | 9            | 0.150                     | 0.41                          | 0.37          | 0.16           | 0.37          | 0.33            | 0.15          |
| CWR11KA334*0+□                 | TBJA 334 * 025 C □ □ # 0 ^ + + | TBJA 334 * 025 C □ □ L @ 0 ^ + + | A    | 0.33  | 25                                  | 15                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.07                          | 0.06          | 0.03           | 1.06          | 0.95            | 0.42          |
| CWR11KA474*0+□                 | TBJA 474 * 025 C □ □ # 0 ^ + + | TBJA 474 * 025 C □ □ L @ 0 ^ + + | A    | 0.47  | 25                                  | 14                                 | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.075                     | 0.07                          | 0.07          | 0.03           | 1.02          | 0.92            | 0.41          |
| CWR11KA684*0+□                 | TBJB 684 * 025 C □ □ # 0 ^ + + | TBJB 684 * 025 C □ □ L @ 0 ^ + + | B    | 0.68  | 25                                  | 7.5                                | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.085                     | 0.11                          | 0.10          | 0.04           | 0.80          | 0.72            | 0.32          |
| CWR11KA105*0+□                 | TBJB 105 * 025 C □ □ # 0 ^ + + | TBJB 105 * 025 C □ □ L @ 0 ^ + + | B    | 1   | 25                                  | 6.5                                | 0.5           | 5             | 6              | 4            | 6                | 6            | 0.085                     | 0.11                          | 0.10          | 0.05           | 0.74          | 0.67            | 0.30          |
| CWR11KA155*0+□                 | TBJB 155 * 025 C □ □ # 0 ^ + + | TBJB 155 * 025 C □ □ L @ 0 ^ + + | B    | 1.5   | 25                                  | 6.5                                | 0.5           | 5             | 6              | 6            | 8                | 9            | 0.085                     | 0.11                          | 0.10          | 0.05           | 0.74          | 0.67            | 0.30          |
| CWR11KA225*0+□                 | TBJC 225 * 025 C □ □ # 0 ^ + + | TBJC 225 * 025 C □ □ L @ 0 ^ + + | C    | 2.2   | 25                                  | 3.5                                | 0.6           | 6             | 7.2            | 6            | 9                | 9            | 0.110                     | 0.18                          | 0.16          | 0.07           | 0.62          | 0.56            | 0.25          |
| CWR11KA335*0+□                 | TBJC 335 * 025 C □ □ # 0 ^ + + | TBJC 335 * 025 C □ □ L @ 0 ^ + + | C    | 3.3   | 25                                  | 3.5                                | 0.9           | 9             | 10.8           | 6            | 8                | 9            | 0.110                     | 0.18                          | 0.16          | 0.07           | 0.62          | 0.56            | 0.25          |
| CWR11KA475*0+□                 | TBJC 475 * 025 C □ □ # 0 ^ + + | TBJC 475 * 025 C □ □ L @ 0 ^ + + | C    | 4.7   | 25                                  | 2.5                                | 1.2           | 12            | 14.4           | 6            | 9                | 9            | 0.110                     | 0.21                          | 0.19          | 0.08           | 0.52          | 0.47            | 0.21          |
| CWR11KA685*0+□                 | TBJD 685 * 025 C □ □ # 0 ^ + + | TBJD 685 * 025 C □ □ L @ 0 ^ + + | D    | 6.8   | 25                                  | 1.4                                | 1.7           | 17            | 20.4           | 6            | 9                | 9            | 0.150                     | 0.33                          | 0.29          | 0.13           | 0.46          | 0.41            | 0.18          |

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.

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.



# TBJ Series

CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level



| RATING & PART NUMBER REFERENCE |                                   |                                   |      | Parametric Specifications by Rating per MIL-PRF-55365/8 |                                |                            |               |               |                |              |                    |              | Typical Ripple Data by Rating |                |               |                |               |                 |               |
|--------------------------------|-----------------------------------|-----------------------------------|------|---|--------------------------------|----------------------------|---------------|---------------|----------------|--------------|--------------------|--------------|-------------------------------|----------------|---------------|----------------|---------------|-----------------|---------------|
| CWR11 P/N                      | AVX COTS-Plus P/N                 | AVX SRC9000 P/N                   | Case | Cap<br>@ 120Hz<br>@ 25°C                                | DC Rated<br>Voltage<br>@ +85°C | ESR @<br>100kHz<br>@ +25°C | DCL max       |               |                | DF Max       |                    |              | Power<br>Dissipation<br>W     | 25°C<br>Ripple |               | 85°C<br>Ripple |               | 125°C<br>Ripple |               |
|                                |                                   |                                   |      |   |                                |                            | +25°C<br>(µA) | +85°C<br>(µA) | +125°C<br>(µA) | +25°C<br>(%) | +(85/125)°C<br>(%) | -55°C<br>(%) |                               | A<br>(100kHz)  | A<br>(100kHz) | A<br>(100kHz)  | V<br>(100kHz) | V<br>(100kHz)   | V<br>(100kHz) |
| CWR11K*106*0+□                 | TBJ D 106 * 025 C □ # @ 0 + □ + □ | TBJ D 106 * 025 C □ L @ 9 + □ + □ | D    | 10  | 25                             | 1.2                        | 2.5           | 25            | 30             | 6            | 8                  | 9            | 0.150                         | 0.35           | 0.32          | 0.14           | 0.42          | 0.38            | 0.17          |
| CWR11M*156*0+□                 | TBJ D 156 * 025 C □ # @ 0 + □ + □ | TBJ D 156 * 025 C □ L @ 9 + □ + □ | D    | 15  | 25                             | 1                          | 3.8           | 38            | 45.6           | 6            | 9                  | 9            | 0.150                         | 0.39           | 0.35          | 0.15           | 0.39          | 0.35            | 0.15          |
| CWR11M*104*0+□                 | TBJ A 104 * 035 C □ # @ 0 + □ + □ | TBJ A 104 * 035 C □ L @ 9 + □ + □ | A    | 0.1   | 35                             | 24                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.06           | 0.05          | 0.02           | 1.34          | 1.21            | 0.54          |
| CWR11M*154*0+□                 | TBJ A 154 * 035 C □ # @ 0 + □ + □ | TBJ A 154 * 035 C □ L @ 9 + □ + □ | A    | 0.15  | 35                             | 21                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.06           | 0.05          | 0.02           | 1.25          | 1.13            | 0.50          |
| CWR11M*224*0+□                 | TBJ A 224 * 035 C □ # @ 0 + □ + □ | TBJ A 224 * 035 C □ L @ 9 + □ + □ | A    | 0.22  | 35                             | 18                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.06           | 0.06          | 0.03           | 1.16          | 1.05            | 0.46          |
| CWR11M*334*0+□                 | TBJ A 334 * 035 C □ # @ 0 + □ + □ | TBJ A 334 * 035 C □ L @ 9 + □ + □ | A    | 0.33  | 35                             | 15                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.07           | 0.06          | 0.03           | 1.06          | 0.95            | 0.42          |
| CWR11M*474*0+□                 | TBJ B 474 * 035 C □ # @ 0 + □ + □ | TBJ B 474 * 035 C □ L @ 9 + □ + □ | B    | 0.47  | 35                             | 10                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.09           | 0.08          | 0.04           | 0.92          | 0.83            | 0.37          |
| CWR11M*684*0+□                 | TBJ B 684 * 035 C □ # @ 0 + □ + □ | TBJ B 684 * 035 C □ L @ 9 + □ + □ | B    | 0.68  | 35                             | 8                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.10           | 0.09          | 0.04           | 0.82          | 0.74            | 0.33          |
| CWR11M*105*0+□                 | TBJ B 105 * 035 C □ # @ 0 + □ + □ | TBJ B 105 * 035 C □ L @ 9 + □ + □ | B    | 1   | 35                             | 6.5                        | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.11           | 0.10          | 0.05           | 0.74          | 0.67            | 0.30          |
| CWR11M*155*0+□                 | TBJ C 155 * 035 C □ # @ 0 + □ + □ | TBJ C 155 * 035 C □ L @ 9 + □ + □ | C    | 1.5   | 35                             | 4.5                        | 0.5           | 5             | 6              | 6            | 8                  | 9            | 0.110                         | 0.16           | 0.14          | 0.06           | 0.70          | 0.63            | 0.28          |
| CWR11M*225*0+□                 | TBJ C 225 * 035 C □ # @ 0 + □ + □ | TBJ C 225 * 035 C □ L @ 9 + □ + □ | C    | 2.2   | 35                             | 3.5                        | 0.8           | 8             | 9.6            | 6            | 8                  | 9            | 0.110                         | 0.18           | 0.16          | 0.07           | 0.62          | 0.56            | 0.25          |
| CWR11M*335*0+□                 | TBJ C 335 * 035 C □ # @ 0 + □ + □ | TBJ C 335 * 035 C □ L @ 9 + □ + □ | C    | 3.3   | 35                             | 2.5                        | 1.2           | 12            | 14.4           | 6            | 8                  | 9            | 0.110                         | 0.21           | 0.19          | 0.08           | 0.52          | 0.47            | 0.21          |
| CWR11M*475*0+□                 | TBJ D 475 * 035 C □ # @ 0 + □ + □ | TBJ D 475 * 035 C □ L @ 9 + □ + □ | D    | 4.7   | 35                             | 1.5                        | 1.7           | 17            | 20.4           | 6            | 8                  | 9            | 0.150                         | 0.32           | 0.28          | 0.13           | 0.47          | 0.43            | 0.19          |
| CWR11M*685*0+□                 | TBJ D 685 * 035 C □ # @ 0 + □ + □ | TBJ D 685 * 035 C □ L @ 9 + □ + □ | D    | 6.8   | 35                             | 1.3                        | 2.4           | 24            | 28.8           | 6            | 9                  | 9            | 0.150                         | 0.34           | 0.31          | 0.14           | 0.44          | 0.40            | 0.18          |
| CWR11N*104*0+□                 | TBJ A 104 * 050 C □ # @ 0 + □ + □ | TBJ A 104 * 050 C □ L @ 9 + □ + □ | A    | 0.1   | 50                             | 22                         | 0.5           | 5             | 12             | 6            | 8                  | 8            | 0.075                         | 0.06           | 0.05          | 0.02           | 1.28          | 1.16            | 0.51          |
| CWR11N*154*0+□                 | TBJ B 154 * 050 C □ # @ 0 + □ + □ | TBJ B 154 * 050 C □ L @ 9 + □ + □ | B    | 0.15  | 50                             | 17                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.07           | 0.06          | 0.03           | 1.20          | 1.08            | 0.48          |
| CWR11N*224*0+□                 | TBJ B 224 * 050 C □ # @ 0 + □ + □ | TBJ B 224 * 050 C □ L @ 9 + □ + □ | B    | 0.22  | 50                             | 14                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.08           | 0.07          | 0.03           | 1.09          | 0.98            | 0.44          |
| CWR11N*334*0+□                 | TBJ B 334 * 050 C □ # @ 0 + □ + □ | TBJ B 334 * 050 C □ L @ 9 + □ + □ | B    | 0.33  | 50                             | 12                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.08           | 0.08          | 0.03           | 1.01          | 0.91            | 0.40          |
| CWR11N*474*0+□                 | TBJ C 474 * 050 C □ # @ 0 + □ + □ | TBJ C 474 * 050 C □ L @ 9 + □ + □ | C    | 0.47  | 50                             | 8                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.110                         | 0.12           | 0.11          | 0.05           | 0.94          | 0.84            | 0.38          |
| CWR11N*684*0+□                 | TBJ C 684 * 050 C □ # @ 0 + □ + □ | TBJ C 684 * 050 C □ L @ 9 + □ + □ | C    | 0.68  | 50                             | 7                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.110                         | 0.13           | 0.11          | 0.05           | 0.88          | 0.79            | 0.35          |
| CWR11N*105*0+□                 | TBJ C 105 * 050 C □ # @ 0 + □ + □ | TBJ C 105 * 050 C □ L @ 9 + □ + □ | C    | 1   | 50                             | 6                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.110                         | 0.14           | 0.12          | 0.05           | 0.81          | 0.73            | 0.32          |
| CWR11N*155*0+□                 | TBJ D 155 * 050 C □ # @ 0 + □ + □ | TBJ D 155 * 050 C □ L @ 9 + □ + □ | D    | 1.5   | 50                             | 4                          | 0.8           | 8             | 9.6            | 6            | 8                  | 9            | 0.150                         | 0.19           | 0.17          | 0.08           | 0.77          | 0.70            | 0.31          |
| CWR11N*225*0+□                 | TBJ D 225 * 050 C □ # @ 0 + □ + □ | TBJ D 225 * 050 C □ L @ 9 + □ + □ | D    | 2.2   | 50                             | 2.5                        | 1.1           | 11            | 13.2           | 6            | 8                  | 9            | 0.150                         | 0.24           | 0.22          | 0.10           | 0.61          | 0.55            | 0.24          |
| CWR11N*335*0+□                 | TBJ D 335 * 050 C □ # @ 0 + □ + □ | TBJ D 335 * 050 C □ L @ 9 + □ + □ | D    | 3.3   | 50                             | 2                          | 1.7           | 17            | 20.4           | 6            | 9                  | 9            | 0.150                         | 0.27           | 0.25          | 0.11           | 0.55          | 0.49            | 0.22          |
| CWR11N*475*0+□                 | TBJ D 475 * 050 C □ # @ 0 + □ + □ | TBJ D 475 * 050 C □ L @ 9 + □ + □ | D    | 4.7   | 50                             | 1.5                        | 2.4           | 24            | 28.8           | 6            | 9                  | 9            | 0.150                         | 0.32           | 0.28          | 0.13           | 0.47          | 0.43            | 0.19          |

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.

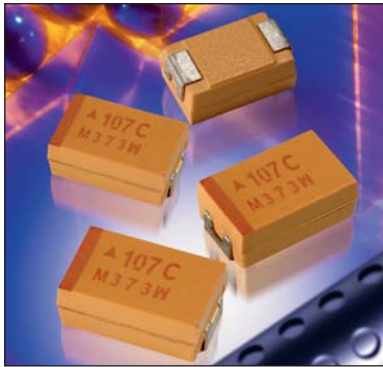
NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



# TBJ Series



## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level



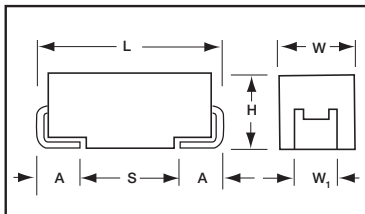
TBJ COTS-Plus series, based on the CWR11 form factor, is a high reliability series encompassing the current range of EIA Low ESR ratings. Qualifications include DSCC 95158 and DSCC 07016, the latter having the widest range of case sizes, capacitance / voltage ratings and also offering Weibull Grade “B” and “C” reliability and all MIL-PRF-55365 surge test options (“A”, “B” & “C”).

For Space Level applications, AVX SRC 9000 qualification is recommended (see

ratings table for part number availability).

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these correspond to “H”, “K”, “C” and “B” termination, respectively, per MIL-PRF-55365).

The molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.



### MARKING

(Brown marking on gold body)



**Polarity Stripe (+)**  
**Capacitance Code**  
**Rated Voltage**  
**Manufacturer's ID**  
**Lot Number**

### CASE DIMENSIONS: millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W+0.20 (0.008) -0.10 (0.004) | H+0.20 (0.008) -0.10 (0.004) | W <sub>1</sub> ±0.20 (0.008) | A+0.30 (0.012) -0.20 (0.008) | S Min.       |
|------|----------|------------|----------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------|
| A    | 1206     | 3216-18    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.60 (0.063)                 | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| B    | 1210     | 3528-21    | 3.50 (0.138)   | 2.80 (0.110)                 | 1.90 (0.075)                 | 2.20 (0.087)                 | 0.80 (0.031)                 | 1.40 (0.055) |
| C    | 2312     | 6032-28    | 6.00 (0.236)   | 3.20 (0.126)                 | 2.60 (0.102)                 | 2.20 (0.087)                 | 1.30 (0.051)                 | 2.90 (0.114) |
| D    | 2917     | 7343-31    | 7.30 (0.287)   | 4.30 (0.169)                 | 2.90 (0.114)                 | 2.40 (0.094)                 | 1.30 (0.051)                 | 4.40 (0.173) |
| E    | 2917     | 7343-43    | 7.30 (0.287)   | 4.30 (0.169)                 | 4.10 (0.162)                 | 2.40 (0.094)                 | 1.30 (0.051)                 | 4.40 (0.173) |
| 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<sub>1</sub> dimension applies to the termination width for A dimensional area only.

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (EIA VOLTAGE CODE) RANGE LETTER DENOTES CASE SIZE (ESR LIMITS IN PARENTHESES)

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) to 85°C |                         |                               |                             |                         |                                 |                              |                      |
|-------------|------|--|-------------------------|-------------------------------|-----------------------------|-------------------------|---------------------------------|------------------------------|----------------------|
| µF          | Code | 4V (G)                                     | 6V (J)                  | 10V (A)                       | 16V (C)                     | 20V (D)                 | 25V (E)                         | 35V (V)                      | 50V (T)              |
| 0.15        | 154  |  |                         |                               |                             |                         |                                 |                              | A(15000)             |
| 0.22        | 224  |  |                         |                               |                             |                         |                                 |                              | A(18000)             |
| 0.47        | 474  |  |                         |                               |                             |                         |                                 | A(12000)                     | A(9500)/B(9500)      |
| 0.68        | 684  |  |                         |                               |                             |                         | A(10000)                        | A(8000)                      | A(7900)              |
| 1.0         | 105  |  |                         |                               |                             |                         | A(8000)                         | A(7500)                      | A(6600)/B(7000)      |
| 1.5         | 155  |  |                         |                               |                             | A(6500)                 | A(3000,7500)                    | A(7500)/B(5200)              | C(2000)/D(1500)      |
| 2.2         | 225  |  |                         |                               | A(5500)                     | A(3000)                 | A(7000)/B(2000)                 | B(2000)                      | D(1200)              |
| 3.3         | 335  |  | A(8000)                 |                               | A(3500,5000)                |                         | B(2000)                         | B(1000)                      | D(800)               |
| 4.7         | 475  |  | A(6000)                 | A(5000)                       | A(2000)                     | A(1800,4000)<br>B(1000) | A(3100)<br>B(700,1500)          | B(1500)<br>C(600)/D(450)     | D(300)<br>E(300)     |
| 6.8         | 685  |  | A(5000)                 | A(4000)                       | A(1500)/B(1200)             | B(1000)                 | B(700,2800)<br>C(200)           | C(350)/D(400)<br>E(300)      | D(300,600)<br>E(400) |
| 10          | 106  |  | A(4000)                 | A(1800,3000)                  | A(3000)/B(900)              | B(500,1000)<br>C(700)   | C(300,500)                      | C(1600)/D(125,300)<br>E(250) | E(400)               |
| 15          | 156  |  | A(3500)                 | A(1000,3200)<br>B(600)        | B(500,800)                  | B(500)/C(450)<br>D(275) | D(275)/E(200)                   | C(450)/D(100,300)<br>E(250)  | E(250)               |
| 22          | 226  |  | A(3000)/B(600)          | B(500,700)<br>C(300)          | B(600)/C(175,375)<br>B(500) | B(600)/C(400)<br>D(275) | C(275,400)<br>D(100,200)/E(225) | D(400)/D(125)<br>E(125,300)  |                      |
| 33          | 336  | A(3000)                                    | B(600)                  | A(700)/B(425,650)<br>C(500)   | C(100,300)<br>D(250)        | C(300)<br>D(100, 200)   | D(90,300)<br>E(90,175)          | D(200,300)<br>E(300)         |                      |
| 47          | 476  |  | C(300)                  | C(200,350)<br>D(200)          | C(110,350)<br>D(80,150)     | D(100,200)<br>E(150)    | D(175,250)                      | E(250)/V(200)                |                      |
| 68          | 686  | A(1500)                                    | B(500)/C(200)<br>D(175) | C(80,300)<br>D(150)/E(150)    | D(150)                      | D(70,200)<br>E(125,200) | V(95)                           |                              |                      |
| 100         | 107  | A(1400)<br>B(900)                          | C(75,150)               | C(75,200)<br>D(50,100)/E(100) | D(50,125)<br>E(100)         | V(60)                   |                                 |                              |                      |
| 150         | 157  |  | D(125)/E(125)           | D(50,100)/E(100)              | D(60,150)/V(45)             |                         |                                 |                              |                      |
| 220         | 227  |  | D(50,125)<br>E(100)     | D(50,150)<br>E(50,100)        | V(50)                       |                         |                                 |                              |                      |
| 330         | 337  |  | E(60,150)               | D(50,150)<br>E(50,100)/V(40)  |                             |                         |                                 |                              |                      |
| 470         | 477  |  | E(50,200)/V(40)         | E(50,200)/V(40)               |                             |                         |                                 |                              |                      |
| 1000        | 108  | E(200)                                     |                         |                               |                             |                         |                                 |                              |                      |

NOTE: EIA standards for Low ESR solid tantalum capacitors allow an ESR movement of 1.25 times initial limit post mounting.



### HOW TO ORDER

#### COTS-PLUS & DSCC DWG (95158 & 07016):

| TBJ  | D         | 686  | *  | 006  | C   | □  | #   | @   | 0   | ^   | ++   |
|------|-----------|--|--|--|---|--|---|---|---|---|--|
| Type | Case Size | Capacitance Code<br>pF code:<br>1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) | Capacitance Tolerance<br>M = ±20%<br>K = ±10%<br>J = ±5% | Voltage Code<br>004 = 4Vdc<br>006 = 6Vdc<br>010 = 10Vdc<br>015 = 15Vdc<br>020 = 20Vdc<br>025 = 25Vdc<br>035 = 35Vdc<br>050 = 50Vdc | Standard or Low ESR Range<br>C = Std ESR<br>L = Low ESR | Packaging<br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 5 for additional packaging options. | Inspection Level<br>S = Std. Conformance<br>L = Group A<br><br>D = DSCC DWG | Reliability Grade Weibull:<br>B = 0.1%/1000 hrs. 90% conf.<br>C = 0.01%/1000 hrs. 90% conf.<br>D = 0.001%/1000 hrs. 90% conf.<br>Z = Non-ER | Qualification Level<br>0 = N/A<br>9 = SRC9000 | Termination Finish<br>H = Solder Plated<br>0 = Fused Solder Plated<br>8 = Hot Solder Dipped<br>9 = Gold Plated<br>7 = Matte Sn (COTS-Plus only) | Surge Test Option<br>00 = None<br>23 = 10 Cycles, +25°C<br>24 = 10 Cycles, -55°C & +85°C<br>45 = 10 cycles, -55°C & +85°C before Weibull |

#### DSCC DWG P/N CROSS REFERENCE:

|                                |   |   |   |   |   |
|--------------------------------|---|---|---|---|---|
| <b>07016</b><br>DSCC DWG 07016 | <b>-001</b><br>Dash Number<br>See Rating Tables | <b>K</b><br>Capacitance Tolerance<br>K = ±10%<br>M = ±20% | <b>B</b><br>Reliability Grade<br>B = B Weibull<br>C = C Weibull<br>D = D Weibull                                      | <b>C</b><br>Termination Finish<br>B = Gold Plated (10 microinch minimum)<br>H = Solder Plated (50 microinch minimum)<br>C = Hot Solder Dip (60 microinch minimum) | <b>A</b><br>Surge Test Option<br>A = 10 cycles, +25°C<br>B = 10 cycles, -55°C & +85°C<br>C = 10 cycles, -55°C & +85°C before Weibull<br>Z = None required Per MIL-PRF-55365 |
| <b>95158</b><br>DSCC DWG 95158 | <b>-01</b><br>Dash Number<br>See Rating Tables  | <b>K</b><br>Capacitance Tolerance<br>K = ±10%<br>M = ±20% | <b>H</b><br>Termination Finish<br>B = Gold Plated (10 microinch minimum)<br>H = Solder Plated (100 microinch minimum) |   |   |

#### SPACE LEVEL OPTIONS TO SRC9000\*:

| TBJ  | D         | 686  | *  | 006  | C   | □  | L                               | @   | 9                                  | ^  | ++   |
|------|-----------|--|--|--|---|--|---------------------------------|---|------------------------------------|--|--|
| Type | Case Size | Capacitance Code<br>pF code:<br>1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) | Capacitance Tolerance<br>M = ±20%<br>K = ±10%<br>J = ±5% | Voltage Code<br>004 = 4Vdc<br>006 = 6Vdc<br>010 = 10Vdc<br>015 = 15Vdc<br>020 = 20Vdc<br>025 = 25Vdc<br>035 = 35Vdc<br>050 = 50Vdc | Standard or Low ESR Range<br>C = Std ESR<br>L = Low ESR | Packaging<br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 5 for additional packaging options. | Inspection Level<br>L = Group A | Reliability Grade Weibull:<br>B = 0.1%/1000 hrs. 90% conf.<br>C = 0.01%/1000 hrs. 90% conf.<br>D = 0.001%/1000 hrs. 90% conf. | Qualification Level<br>9 = SRC9000 | Termination Finish<br>H = Solder Plated<br>0 = Fused Solder Plated<br>8 = Hot Solder Dipped<br>9 = Gold Plated | Surge Test Option<br>00 = 10 Cycles, -55°C & +85°C<br>45 = 10 cycles, -55°C & +85°C before Weibull |

\*Contact factory for AVX SRC9000 Space Level SCD details.

### TECHNICAL SPECIFICATIONS

|                                     |   |     |   |    |    |    |    |    |    |  |
|-------------------------------------|---|-----|---|----|----|----|----|----|----|--|
| Technical Data:                     | Unless otherwise specified, all technical data relate to an ambient temperature of 25°C |     |   |    |    |    |    |    |    |  |
| Capacitance Range:                  | 0.1 μF to 1000 μF   |     |   |    |    |    |    |    |    |  |
| Capacitance Tolerance:              | ±5%; ±10%; ±20%   |     |   |    |    |    |    |    |    |  |
| Rated Voltage: (V <sub>R</sub> )    | ≤85°C:  | 4   | 6 | 10 | 16 | 20 | 25 | 35 | 50 |  |
| Category Voltage: (V <sub>C</sub> ) | 125°C:  | 2.7 | 4 | 7  | 10 | 13 | 17 | 23 | 33 |  |
| Surge Voltage: (V <sub>S</sub> )    | ≤85°C:  | 5.2 | 8 | 13 | 20 | 26 | 32 | 46 | 65 |  |
|                                     | 125°C:  | 3.4 | 5 | 8  | 12 | 16 | 20 | 28 | 40 |  |
| Temperature Range:                  | -55°C to +125°C   |     |   |    |    |    |    |    |    |  |



# TBJ Series

## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level



| RATING & PART NUMBER REFERENCE |                                 |                                 | Parametric Specifications by Rating per DSCC 95158 or 07016 where applicable |                          |                               |                               |               |               |                |              |                  |              | Typical Ripple Data by Rating |               |                         |               |                         |               |                         |
|--------------------------------|---------------------------------|---------------------------------|--|--------------------------|-------------------------------|-------------------------------|---------------|---------------|----------------|--------------|------------------|--------------|-------------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|
| DSCC P/N                       | AVX DSCC & COTS-Plus P/N        | AVX SRC9000 P/N                 | Case   | Cap @ 120Hz<br>µF @ 25°C | DC Rated Voltage<br>V @ +85°C | ESR @ 100kHz<br>mOhms @ +25°C | DCL max       |               |                | DF Max       |                  |              | Power Dissipation<br>W        | 25°C Ripple   |                         | 125°C Ripple  |                         | 85°C Ripple   |                         |
|                                |                                 |                                 |  |                          |                               |                               | +25°C<br>(µA) | +85°C<br>(µA) | +125°C<br>(µA) | +25°C<br>(%) | +85/125°C<br>(%) | -55°C<br>(%) |                               | A<br>(100kHz) | Ripple<br>A<br>(100kHz) | A<br>(100kHz) | Ripple<br>A<br>(100kHz) | A<br>(100kHz) | Ripple<br>V<br>(100kHz) |
| 07016 001 * @ ^ +              | TBJ A 336 * 004 C □ # @ 0 ^ + + |                                 | A  | 33                       | 4                             | 3000                          | 1.4           | 14            | 18             | 6            | 9                | 9            | 0.075                         | 0.16          | 0.14                    | 0.06          | 0.47                    | 0.43          | 0.19                    |
| 07016 002 * @ ^ +              | TBJ A 686 * 004 C □ # @ 0 ^ + + |                                 | A  | 68                       | 4                             | 1500                          | 2.7           | 27            | 34             | 10           | 12               | 14           | 0.075                         | 0.22          | 0.20                    | 0.09          | 0.34                    | 0.30          | 0.13                    |
| 07016 003 * @ ^ +              | TBJ A 107 * 004 C □ # @ 0 ^ + + |                                 | A  | 100                      | 4                             | 1400                          | 4             | 40            | 50             | 30           | 36               | 42           | 0.075                         | 0.23          | 0.21                    | 0.09          | 0.32                    | 0.29          | 0.13                    |
| 07016 004 * @ ^ +              | TBJ B 107 * 004 C □ # @ 0 ^ + + |                                 | B  | 100                      | 4                             | 900                           | 4             | 40            | 50             | 9            | 10               | 12           | 0.085                         | 0.31          | 0.28                    | 0.12          | 0.28                    | 0.25          | 0.11                    |
| 07016 005 * @ ^ +              | TBJ E 108 * 004 C □ # @ 0 ^ + + |                                 | E  | 1,000                    | 4                             | 200                           | 40            | 400           | 500            | 60           | 90               | 90           | 0.165                         | 0.91          | 0.82                    | 0.36          | 0.18                    | 0.16          | 0.07                    |
| 07016 006 * @ ^ +              | TBJ A 335 * 006 C □ # @ 0 ^ + + |                                 | A  | 3.3                      | 6                             | 8000                          | 0.5           | 5             | 6              | 6            | 9                | 9            | 0.075                         | 0.10          | 0.09                    | 0.04          | 0.77                    | 0.70          | 0.31                    |
| 07016 007 * @ ^ +              | TBJ A 475 * 006 C □ # @ 0 ^ + + |                                 | A  | 4.7                      | 6                             | 6000                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.11          | 0.10                    | 0.04          | 0.67                    | 0.60          | 0.27                    |
| 07016 008 * @ ^ +              | TBJ A 685 * 006 C □ # @ 0 ^ + + |                                 | A  | 6.8                      | 6                             | 5000                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.12          | 0.11                    | 0.05          | 0.61                    | 0.55          | 0.24                    |
| 07016 009 * @ ^ +              | TBJ A 106 * 006 C □ # @ 0 ^ + + | TBJ A 106 * 006 C □ L @ 9 ^ + + | A  | 10                       | 6                             | 4000                          | 1             | 10            | 13             | 6            | 9                | 10           | 0.075                         | 0.14          | 0.12                    | 0.05          | 0.55                    | 0.49          | 0.22                    |
| 07016 010 * @ ^ +              | TBJ A 156 * 006 C □ # @ 0 ^ + + | TBJ A 156 * 006 C □ L @ 9 ^ + + | A  | 15                       | 6                             | 3500                          | 1             | 10            | 13             | 6            | 9                | 10           | 0.075                         | 0.15          | 0.13                    | 0.06          | 0.51                    | 0.46          | 0.20                    |
| 07016 011 * @ ^ +              | TBJ A 226 * 006 C □ # @ 0 ^ + + | TBJ A 226 * 006 C □ L @ 9 ^ + + | A  | 22                       | 6                             | 3000                          | 1.4           | 14            | 18             | 6            | 9                | 10           | 0.075                         | 0.16          | 0.14                    | 0.06          | 0.47                    | 0.43          | 0.19                    |
| 07016 012 * @ ^ +              | TBJ B 226 * 006 C □ # @ 0 ^ + + | TBJ B 226 * 006 C □ L @ 9 ^ + + | B  | 22                       | 6                             | 600                           | 1.4           | 14            | 18             | 6            | 9                | 10           | 0.085                         | 0.38          | 0.34                    | 0.15          | 0.23                    | 0.20          | 0.09                    |
| 07016 013 * @ ^ +              | TBJ B 336 * 006 C □ # @ 0 ^ + + | TBJ B 336 * 006 C □ L @ 9 ^ + + | B  | 33                       | 6                             | 600                           | 2.1           | 21            | 26             | 6            | 9                | 10           | 0.085                         | 0.38          | 0.34                    | 0.15          | 0.23                    | 0.20          | 0.09                    |
| 07016 014 * @ ^ +              | TBJ C 476 * 006 C □ # @ 0 ^ + + | TBJ C 476 * 006 C □ L @ 9 ^ + + | C  | 47                       | 6                             | 300                           | 3             | 30            | 38             | 6            | 9                | 10           | 0.110                         | 0.61          | 0.54                    | 0.24          | 0.18                    | 0.16          | 0.07                    |
| 07016 015 * @ ^ +              | TBJ B 686 * 006 C □ # @ 0 ^ + + |                                 | B  | 68                       | 6                             | 500                           | 4.3           | 43            | 54             | 8            | 10               | 12           | 0.085                         | 0.41          | 0.37                    | 0.16          | 0.21                    | 0.19          | 0.08                    |
| 07016 016 * @ ^ +              | TBJ C 686 * 006 C □ # @ 0 ^ + + | TBJ C 686 * 006 C □ L @ 9 ^ + + | C  | 68                       | 6                             | 200                           | 4.3           | 43            | 54             | 6            | 9                | 10           | 0.110                         | 0.74          | 0.67                    | 0.30          | 0.15                    | 0.13          | 0.06                    |
| 95158 01 * ^ A                 | TBJ D 686 * 006 C □ # @ 0 ^ + + |                                 | D  | 68                       | 6                             | 175                           | 3.3           | 19.8          | 33             | 4            | 6                | 6            | 0.150                         | 0.93          | 0.83                    | 0.37          | 0.16                    | 0.15          | 0.06                    |
| 07016 017 * @ ^ +              | TBJ C 107 * 006 C □ # @ 0 ^ + + |                                 | C  | 100                      | 6                             | 150                           | 6.3           | 63            | 79             | 6            | 9                | 10           | 0.110                         | 0.86          | 0.77                    | 0.34          | 0.13                    | 0.12          | 0.05                    |
| 07016 018 * @ ^ +              | TBJ C 107 * 006 L □ # @ 0 ^ + + |                                 | C  | 100                      | 6                             | 75                            | 6.3           | 63            | 79             | 6            | 9                | 10           | 0.110                         | 1.21          | 1.09                    | 0.48          | 0.09                    | 0.08          | 0.04                    |
| 07016 019 * @ ^ +              | TBJ D 157 * 006 C □ # @ 0 ^ + + | TBJ D 157 * 006 C □ L @ 9 ^ + + | D  | 150                      | 6                             | 125                           | 9.5           | 95            | 119            | 6            | 9                | 10           | 0.150                         | 1.10          | 0.99                    | 0.44          | 0.14                    | 0.12          | 0.05                    |
| 95158 02 * ^ A                 | TBJ E 157 * 006 C □ # @ 0 ^ + + |                                 | E  | 150                      | 6                             | 125                           | 7.2           | 43.2          | 72             | 6            | 8                | 8            | 0.165                         | 1.15          | 1.03                    | 0.46          | 0.14                    | 0.13          | 0.06                    |
| 07016 020 * @ ^ +              | TBJ D 227 * 006 C □ # @ 0 ^ + + | TBJ D 227 * 006 C □ L @ 9 ^ + + | D  | 220                      | 6                             | 125                           | 13.2          | 132           | 165            | 8            | 10               | 12           | 0.150                         | 1.10          | 0.99                    | 0.44          | 0.14                    | 0.12          | 0.05                    |
| 95158 05 * ^ A                 | TBJ D 227 * 006 L □ # @ 0 ^ + + |                                 | D  | 220                      | 6                             | 50                            | 13.2          | 132           | 165            | 8            | 10               | 12           | 0.150                         | 1.73          | 1.56                    | 0.69          | 0.09                    | 0.08          | 0.03                    |
| 95158 03 * ^ A                 | TBJ E 227 * 006 L □ # @ 0 ^ + + |                                 | E  | 220                      | 6                             | 100                           | 12            | 132           | 165            | 8            | 12               | 12           | 0.165                         | 1.28          | 1.16                    | 0.51          | 0.13                    | 0.12          | 0.05                    |
| 07016 021 * @ ^ +              | TBJ E 337 * 006 C □ # @ 0 ^ + + | TBJ E 337 * 006 C □ L @ 9 ^ + + | E  | 330                      | 6                             | 150                           | 19.8          | 198           | 248            | 8            | 10               | 12           | 0.165                         | 1.05          | 0.94                    | 0.42          | 0.18                    | 0.14          | 0.06                    |
| 07016 022 * @ ^ +              | TBJ E 337 * 006 L □ # @ 0 ^ + + |                                 | E  | 330                      | 6                             | 50                            | 19.8          | 198           | 248            | 8            | 10               | 12           | 0.165                         | 1.82          | 1.63                    | 0.73          | 0.09                    | 0.08          | 0.04                    |
| 07016 023 M @ ^ +              | TBJ E 477 * 006 C □ # @ 0 ^ + + | TBJ E 477 * 006 C □ L @ 9 ^ + + | E  | 470                      | 6                             | 200                           | 29.6          | 296           | 370            | 10           | 12               | 14           | 0.165                         | 0.91          | 0.82                    | 0.36          | 0.18                    | 0.16          | 0.07                    |
| 07016 024 M @ ^ +              | TBJ E 477 M 006 L □ # @ 0 ^ + + |                                 | E  | 470                      | 6                             | 50                            | 29.6          | 296           | 370            | 10           | 12               | 14           | 0.165                         | 1.82          | 1.63                    | 0.73          | 0.09                    | 0.08          | 0.04                    |
| 07016 025 * @ ^ +              | TBJ V 477 * 006 L □ # @ 0 ^ + + |                                 | V  | 470                      | 6                             | 40                            | 29.6          | 296           | 370            | 10           | 12               | 12           | 0.250                         | 2.50          | 2.25                    | 1.00          | 0.10                    | 0.09          | 0.04                    |
| 07016 026 * @ ^ +              | TBJ A 475 * 010 C □ # @ 0 ^ + + | TBJ A 475 * 010 C □ L @ 9 ^ + + | A  | 4.7                      | 10                            | 5000                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.12          | 0.11                    | 0.05          | 0.61                    | 0.55          | 0.24                    |
| 07016 027 * @ ^ +              | TBJ A 685 * 010 C □ # @ 0 ^ + + | TBJ A 685 * 010 C □ L @ 9 ^ + + | A  | 6.8                      | 10                            | 4000                          | 0.7           | 7             | 9              | 6            | 9                | 10           | 0.075                         | 0.14          | 0.12                    | 0.05          | 0.55                    | 0.49          | 0.22                    |
| 07016 028 * @ ^ +              | TBJ A 106 * 010 C □ # @ 0 ^ + + | TBJ A 106 * 010 C □ L @ 9 ^ + + | A  | 10                       | 10                            | 3000                          | 1             | 10            | 13             | 6            | 9                | 10           | 0.075                         | 0.16          | 0.14                    | 0.06          | 0.47                    | 0.43          | 0.19                    |
| 07016 029 * @ ^ +              | TBJ A 106 * 010 L □ # @ 0 ^ + + | TBJ A 106 * 010 L □ L @ 9 ^ + + | A  | 10                       | 10                            | 1800                          | 1             | 10            | 13             | 6            | 9                | 10           | 0.075                         | 0.20          | 0.18                    | 0.08          | 0.37                    | 0.33          | 0.15                    |
| 07016 030 * @ ^ +              | TBJ A 156 * 010 C □ # @ 0 ^ + + | TBJ A 156 * 010 C □ L @ 9 ^ + + | A  | 15                       | 10                            | 3200                          | 1.6           | 16            | 20             | 6            | 9                | 10           | 0.075                         | 0.15          | 0.14                    | 0.06          | 0.49                    | 0.44          | 0.20                    |
| 07016 031 * @ ^ +              | TBJ A 156 * 010 L □ # @ 0 ^ + + | TBJ A 156 * 010 L □ L @ 9 ^ + + | A  | 15                       | 10                            | 1000                          | 1.6           | 16            | 20             | 6            | 9                | 10           | 0.075                         | 0.27          | 0.25                    | 0.11          | 0.27                    | 0.25          | 0.11                    |
| 07016 032 * @ ^ +              | TBJ B 156 * 010 C □ # @ 0 ^ + + | TBJ B 156 * 010 C □ L @ 9 ^ + + | B  | 15                       | 10                            | 600                           | 1.6           | 16            | 20             | 6            | 9                | 10           | 0.085                         | 0.38          | 0.34                    | 0.15          | 0.23                    | 0.20          | 0.09                    |
| 07016 033 * @ ^ +              | TBJ B 226 * 010 C □ # @ 0 ^ + + | TBJ B 226 * 010 C □ L @ 9 ^ + + | B  | 22                       | 10                            | 700                           | 2.2           | 22            | 28             | 6            | 9                | 10           | 0.085                         | 0.35          | 0.31                    | 0.14          | 0.24                    | 0.22          | 0.10                    |
| 07016 034 * @ ^ +              | TBJ B 226 * 010 L □ # @ 0 ^ + + |                                 | B  | 22                       | 10                            | 500                           | 2.2           | 22            | 28             | 6            | 9                | 10           | 0.085                         | 0.41          | 0.37                    | 0.16          | 0.21                    | 0.19          | 0.08                    |
| 07016 035 * @ ^ +              | TBJ C 226 * 010 C □ # @ 0 ^ + + |                                 | C  | 22                       | 10                            | 300                           | 2.2           | 22            | 28             | 6            | 9                | 10           | 0.110                         | 0.61          | 0.54                    | 0.24          | 0.18                    | 0.16          | 0.07                    |
| 07016 036 * @ ^ +              | TBJ A 336 * 010 C □ # @ 0 ^ + + |                                 | A  | 33                       | 10                            | 700                           | 3.3           | 33            | 41             | 8            | 10               | 12           | 0.075                         | 0.33          | 0.29                    | 0.13          | 0.23                    | 0.21          | 0.09                    |
| 07016 037 * @ ^ +              | TBJ B 336 * 010 C □ # @ 0 ^ + + | TBJ B 336 * 010 C □ L @ 9 ^ + + | B  | 33                       | 10                            | 650                           | 3.3           | 33            | 41             | 6            | 9                | 10           | 0.085                         | 0.36          | 0.33                    | 0.14          | 0.24                    | 0.21          | 0.09                    |
| 07016 038 * @ ^ +              | TBJ B 336 * 010 L □ # @ 0 ^ + + |                                 | B  | 33                       | 10                            | 425                           | 3.3           | 33            | 41             | 6            | 9                | 10           | 0.085                         | 0.45          | 0.40                    | 0.18          | 0.19                    | 0.17          | 0.08                    |
| 07016 039 * @ ^ +              | TBJ C 336 * 010 C □ # @ 0 ^ + + | TBJ C 336 * 010 C □ L @ 9 ^ + + | C  | 33                       | 10                            | 500                           | 3.3           | 33            | 41             | 6            | 9                | 10           | 0.110                         | 0.47          | 0.42                    | 0.19          | 0.23                    | 0.21          | 0.09                    |
| 07016 040 * @ ^ +              | TBJ C 476 * 010 C □ # @ 0 ^ + + | TBJ C 476 * 010 C □ L @ 9 ^ + + | C  | 47                       | 10                            | 350                           | 4.7           | 47            | 59             | 6            | 9                | 10           | 0.110                         | 0.56          | 0.50                    | 0.22          | 0.20                    | 0.18          | 0.08                    |
| 07016 041 * @ ^ +              | TBJ C 476 * 010 L □ # @ 0 ^ + + |                                 | C  | 47                       | 10                            | 200                           | 4.7           | 47            | 59             | 6            | 9                | 10           | 0.110                         | 0.74          | 0.67                    | 0.30          | 0.15                    | 0.13          | 0.06                    |
| 95158 -04 * ^ A                | TBJ D 476 * 010 C □ # @ 0 ^ + + |                                 | D  | 47                       | 10                            | 200                           | 3.8           | 22.8          | 38             | 4            | 6                | 6            | 0.150                         | 0.87          | 0.78                    | 0.35          | 0.17                    | 0.16          | 0.07                    |
| 07016 042 * @ ^ +              | TBJ C 686 * 010 C □ # @ 0 ^ + + | TBJ C 686 * 010 C □ L @ 9 ^ + + | C  | 68                       | 10                            | 300                           | 6.8           | 68            | 85             | 8            | 10               | 12           | 0.110                         | 0.61          | 0.54                    | 0.24          | 0.18                    | 0.16          | 0.07                    |
| 07016 043 * @ ^ +              | TBJ C 686 * 010 L □ # @ 0 ^ + + |                                 | C  | 68                       | 10                            | 80                            | 6.8           | 68            | 85             | 8            | 10               | 12           | 0.110                         | 1.17          | 1.06                    | 0.47          | 0.09                    | 0.08          | 0.04                    |
| 07016 044 * @ ^ +              | TBJ D 686 * 010 C □ # @ 0 ^ + + |                                 | D  | 68                       | 10                            | 150                           | 6.8           | 68            | 85             | 6            | 9                | 10           | 0.150                         | 1.00          | 0.90                    | 0.40          | 0.15                    | 0.14          | 0.06                    |
| 95158 05 * ^ A                 | TBJ E 686 * 010 C □ # @ 0 ^ + + |                                 | E  | 68                       | 10                            | 150                           | 5.4           | 32.4          | 54             | 4            | 6                | 6            | 0.165                         | 1.05          | 0.94                    | 0.42          | 0.16                    | 0.14          | 0.06                    |
| 07016 045 * @ ^ +              | TBJ C 107 * 010 C □ # @ 0 ^ + + | TBJ C 107 * 010 C □ L @ 9 ^ + + | C  | 100                      | 10                            | 200                           | 10            | 100           | 125            | 8            | 10               | 12           | 0.110                         | 0.74          | 0.67                    | 0.30          | 0.15                    | 0.13          | 0.06                    |
| 07016 046 * @ ^ +              | TBJ C 107 * 010 L □ # @ 0 ^ + + |                                 | C  | 100                      | 10                            | 75                            | 10            | 100           | 125            | 8            | 10               | 12           | 0.110                         | 1.21          | 1.09                    | 0.48          | 0.09                    | 0.08          | 0.04                    |
| 95158 06 * ^ A                 | TBJ D 107 * 010 C □ # @ 0 ^ + + | TBJ D 107 * 010 C □ L @ 9 ^ + + | D  | 100                      | 10                            | 100                           | 10            | 100           | 125            | 6            | 9                | 10           | 0.150                         | 1.22          | 1.10                    | 0.49          | 0.12                    | 0.11          | 0.05                    |
| 07016 047 * @ ^ +              | TBJ D 107 * 010 L □ # @ 0 ^ + + |                                 | D  | 100                      | 10                            | 50                            | 10            | 100           | 125            | 6            | 9                | 10           | 0.150                         | 1.73          | 1.56                    | 0.69          | 0.09                    | 0.08          | 0.03                    |
| 95158 07 * ^ A                 | TBJ E 107 * 010 C □ # @ 0 ^ + + |                                 | E  | 100                      | 10                            | 100                           | 8             | 48            | 80             | 6            | 8                | 8            | 0.165                         | 1.28          | 1.16                    | 0.51          | 0.13                    | 0.12          | 0.05                    |

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.

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.



# TBJ Series

## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level



| RATING & PART NUMBER REFERENCE |                                 |                                 | Parametric Specifications by Rating per DSCC 95158 or 07016 where applicable |                          |                               |                               |               |               |                |              |                  |              | Typical Ripple Data by Rating |                    |                    |                     |                    |                    |                     |
|--------------------------------|---------------------------------|---------------------------------|--|--------------------------|-------------------------------|-------------------------------|---------------|---------------|----------------|--------------|------------------|--------------|-------------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|
| DSCC P/N                       | AVX DSCC & COTS-Plus P/N        | AVX SRC9000 P/N                 | Case   | Cap @ 120Hz<br>µF @ 25°C | DC Rated Voltage<br>V @ +85°C | ESR @ 100kHz<br>mOhms @ +25°C | DCL max       |               |                | DF Max       |                  |              | Power Dissipation<br>W        | Ripple             |                    |                     |                    |                    |                     |
|                                |                                 |                                 |  |                          |                               |                               | +25°C<br>(µA) | +85°C<br>(µA) | +125°C<br>(µA) | +25°C<br>(%) | +85/125°C<br>(%) | -55°C<br>(%) |                               | 25°C<br>A (100kHz) | 85°C<br>A (100kHz) | 125°C<br>A (100kHz) | 25°C<br>V (100kHz) | 85°C<br>V (100kHz) | 125°C<br>V (100kHz) |
| 95158 26 * * A                 | TBJ D 157 * 010 C □ # @ 0 ^ + + | TBJ D 157 * 010 C □ L @ 9 ^ + + | D  | 150                      | 10                            | 100                           | 15            | 150           | 188            | 8            | 10               | 12           | 0.150                         | 1.22               | 1.10               | 0.49                | 0.12               | 0.11               | 0.05                |
| 07016 048 * @ ^ +              | TBJ D 157 * 010 L □ # @ 0 ^ + + |                                 | D  | 150                      | 10                            | 50                            | 15            | 150           | 188            | 8            | 10               | 12           | 0.150                         | 1.73               | 1.56               | 0.69                | 0.09               | 0.08               | 0.03                |
| 95158 08 * * A                 | TBJ E 157 * 010 C □ # @ 0 ^ + + | TBJ E 157 * 010 C □ L @ 9 ^ + + | E  | 150                      | 10                            | 100                           | 15            | 150           | 187.5          | 8            | 10               | 12           | 0.165                         | 1.28               | 1.16               | 0.51                | 0.13               | 0.12               | 0.05                |
| 07016 049 * @ ^ +              | TBJ D 227 M 010 C □ # @ 0 ^ + + |                                 | D  | 220                      | 10                            | 150                           | 22            | 220           | 275            | 8            | 10               | 12           | 0.150                         | 1.00               | 0.90               | 0.40                | 0.15               | 0.14               | 0.06                |
| 07016 050 M @ ^ +              | TBJ D 227 M 010 L □ # @ 0 ^ + + |                                 | D  | 220                      | 10                            | 50                            | 15            | 150           | 188            | 8            | 10               | 12           | 0.150                         | 1.73               | 1.56               | 0.69                | 0.09               | 0.08               | 0.03                |
| 95158 28 * * A                 | TBJ E 227 * 010 C □ # @ 0 ^ + + | TBJ E 227 * 010 C □ L @ 9 ^ + + | E  | 220                      | 10                            | 100                           | 15            | 150           | 188            | 8            | 10               | 12           | 0.165                         | 1.28               | 1.16               | 0.51                | 0.13               | 0.12               | 0.05                |
| 07016 051 * @ ^ +              | TBJ E 227 * 010 L □ # @ 0 ^ + + |                                 | E  | 220                      | 10                            | 50                            | 22            | 220           | 275            | 8            | 10               | 12           | 0.165                         | 1.82               | 1.63               | 0.73                | 0.09               | 0.08               | 0.04                |
| 07016 052 M @ ^ +              | TBJ D 337 M 010 C □ # @ 0 ^ + + |                                 | D  | 330                      | 10                            | 150                           | 33            | 330           | 413            | 8            | 10               | 12           | 0.150                         | 1.00               | 0.90               | 0.40                | 0.15               | 0.14               | 0.06                |
| 07016 053 M @ ^ +              | TBJ D 337 M 010 L □ # @ 0 ^ + + |                                 | D  | 330                      | 10                            | 50                            | 33            | 330           | 413            | 8            | 10               | 12           | 0.150                         | 1.73               | 1.56               | 0.69                | 0.09               | 0.08               | 0.03                |
| 07016 054 * @ ^ +              | TBJ E 337 * 010 C □ # @ 0 ^ + + | TBJ E 337 * 010 C □ L @ 9 ^ + + | E  | 330                      | 10                            | 100                           | 33            | 330           | 413            | 8            | 10               | 12           | 0.165                         | 1.28               | 1.16               | 0.51                | 0.13               | 0.12               | 0.05                |
| 07016 055 * @ ^ +              | TBJ E 337 * 010 L □ # @ 0 ^ + + |                                 | E  | 330                      | 10                            | 50                            | 33            | 330           | 413            | 8            | 10               | 12           | 0.165                         | 1.82               | 1.63               | 0.73                | 0.09               | 0.08               | 0.04                |
| 07016 056 * @ ^ +              | TBJ V 337 * 010 L □ # @ 0 ^ + + |                                 | V  | 330                      | 10                            | 40                            | 33            | 330           | 413            | 8            | 10               | 12           | 0.250                         | 2.50               | 2.25               | 1.00                | 0.10               | 0.09               | 0.04                |
| 07016 057 M @ ^ +              | TBJ E 477 M 010 C □ # @ 0 ^ + + |                                 | E  | 470                      | 10                            | 200                           | 47            | 470           | 588            | 10           | 12               | 14           | 0.165                         | 0.91               | 0.82               | 0.36                | 0.18               | 0.16               | 0.07                |
| 07016 058 M @ ^ +              | TBJ E 477 M 010 L □ # @ 0 ^ + + |                                 | E  | 470                      | 10                            | 50                            | 47            | 470           | 588            | 10           | 12               | 14           | 0.165                         | 1.82               | 1.63               | 0.73                | 0.09               | 0.08               | 0.04                |
| 07016 059 * @ ^ +              | TBJ V 477 * 010 L □ # @ 0 ^ + + |                                 | V  | 470                      | 10                            | 40                            | 47            | 470           | 588            | 10           | 12               | 14           | 0.250                         | 2.50               | 2.25               | 1.00                | 0.10               | 0.09               | 0.04                |
| 07016 060 * @ ^ +              | TBJ A 225 * 016 C □ # @ 0 ^ + + | TBJ A 225 * 016 C □ L @ 9 ^ + + | A  | 2.2                      | 16                            | 5500                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.12               | 0.11               | 0.05                | 0.64               | 0.58               | 0.26                |
| 07016 061 * @ ^ +              | TBJ A 335 * 016 C □ # @ 0 ^ + + | TBJ A 335 * 016 C □ L @ 9 ^ + + | A  | 3.3                      | 16                            | 5000                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.12               | 0.11               | 0.05                | 0.61               | 0.55               | 0.24                |
| 07016 062 * @ ^ +              | TBJ A 335 * 016 L □ # @ 0 ^ + + | TBJ A 335 * 016 L □ L @ 9 ^ + + | A  | 3.3                      | 16                            | 3500                          | 0.5           | 5             | 6              | 6            | 9                | 10           | 0.075                         | 0.15               | 0.13               | 0.06                | 0.51               | 0.46               | 0.20                |
| 07016 063 * @ ^ +              | TBJ A 475 * 016 C □ # @ 0 ^ + + | TBJ A 475 * 016 C □ L @ 9 ^ + + | A  | 4.7                      | 16                            | 2000                          | 0.8           | 8             | 10             | 6            | 9                | 10           | 0.075                         | 0.19               | 0.17               | 0.08                | 0.39               | 0.35               | 0.15                |
| 07016 064 * @ ^ +              | TBJ A 685 * 016 C □ # @ 0 ^ + + | TBJ A 685 * 016 C □ L @ 9 ^ + + | A  | 6.8                      | 16                            | 1500                          | 1.1           | 11            | 14             | 6            | 9                | 10           | 0.075                         | 0.22               | 0.20               | 0.09                | 0.34               | 0.30               | 0.13                |
| 07016 065 * @ ^ +              | TBJ B 685 * 016 C □ # @ 0 ^ + + | TBJ B 685 * 016 C □ L @ 9 ^ + + | B  | 6.8                      | 16                            | 1200                          | 1.1           | 11            | 14             | 6            | 9                | 10           | 0.085                         | 0.27               | 0.24               | 0.11                | 0.32               | 0.29               | 0.13                |
| 07016 066 * @ ^ +              | TBJ A 106 * 016 C □ # @ 0 ^ + + |                                 | A  | 10                       | 16                            | 3000                          | 1.6           | 16            | 20             | 6            | 9                | 10           | 0.075                         | 0.16               | 0.14               | 0.06                | 0.47               | 0.43               | 0.19                |
| 07016 068 * @ ^ +              | TBJ B 156 * 016 C □ # @ 0 ^ + + | TBJ B 156 * 016 C □ L @ 9 ^ + + | B  | 15                       | 16                            | 800                           | 2.4           | 24            | 30             | 6            | 9                | 10           | 0.085                         | 0.33               | 0.29               | 0.13                | 0.26               | 0.23               | 0.10                |
| 07016 069 * @ ^ +              | TBJ B 156 * 016 L □ # @ 0 ^ + + |                                 | B  | 15                       | 16                            | 500                           | 2.4           | 24            | 30             | 6            | 9                | 10           | 0.085                         | 0.41               | 0.37               | 0.16                | 0.21               | 0.19               | 0.08                |
| 07016 070 * @ ^ +              | TBJ B 226 * 016 C □ # @ 0 ^ + + | TBJ B 226 * 016 C □ L @ 9 ^ + + | B  | 22                       | 16                            | 600                           | 3.6           | 36            | 45             | 6            | 9                | 10           | 0.085                         | 0.38               | 0.34               | 0.15                | 0.23               | 0.20               | 0.09                |
| 07016 071 * @ ^ +              | TBJ C 226 * 016 C □ # @ 0 ^ + + | TBJ C 226 * 016 C □ L @ 9 ^ + + | C  | 22                       | 16                            | 375                           | 3.6           | 36            | 45             | 6            | 9                | 10           | 0.110                         | 0.54               | 0.49               | 0.22                | 0.20               | 0.18               | 0.08                |
| 07016 072 * @ ^ +              | TBJ C 226 * 016 L □ # @ 0 ^ + + |                                 | C  | 22                       | 16                            | 150                           | 3.6           | 36            | 45             | 6            | 9                | 10           | 0.110                         | 0.86               | 0.77               | 0.34                | 0.13               | 0.12               | 0.05                |
| 07016 073 * @ ^ +              | TBJ B 336 * 016 C □ # @ 0 ^ + + |                                 | B  | 22                       | 16                            | 500                           | 3.6           | 36            | 45             | 6            | 9                | 10           | 0.085                         | 0.41               | 0.37               | 0.16                | 0.21               | 0.19               | 0.08                |
| 07016 074 * @ ^ +              | TBJ C 336 * 016 C □ # @ 0 ^ + + | TBJ C 336 * 016 C □ L @ 9 ^ + + | C  | 33                       | 16                            | 300                           | 5.3           | 53            | 66             | 6            | 9                | 10           | 0.110                         | 0.61               | 0.54               | 0.24                | 0.18               | 0.16               | 0.07                |
| 07016 075 * @ ^ +              | TBJ C 336 * 016 L □ # @ 0 ^ + + |                                 | C  | 33                       | 16                            | 100                           | 5.3           | 53            | 66             | 6            | 9                | 10           | 0.110                         | 1.05               | 0.94               | 0.42                | 0.10               | 0.09               | 0.04                |
| 95158 09 * * A                 | TBJ D 336 * 016 C □ # @ 0 ^ + + |                                 | D  | 33                       | 16                            | 250                           | 4.2           | 25.2          | 42             | 4            | 6                | 6            | 0.150                         | 0.77               | 0.70               | 0.31                | 0.19               | 0.17               | 0.08                |
| 07016 076 * @ ^ +              | TBJ C 476 * 016 C □ # @ 0 ^ + + | TBJ C 476 * 016 C □ L @ 9 ^ + + | C  | 47                       | 16                            | 350                           | 7.6           | 76            | 95             | 6            | 9                | 10           | 0.110                         | 0.56               | 0.50               | 0.22                | 0.20               | 0.18               | 0.08                |
| 07016 077 * @ ^ +              | TBJ C 476 * 016 L □ # @ 0 ^ + + |                                 | C  | 47                       | 16                            | 110                           | 7.6           | 76            | 95             | 6            | 9                | 10           | 0.110                         | 1.00               | 0.90               | 0.40                | 0.11               | 0.10               | 0.04                |
| 07016 078 * @ ^ +              | TBJ D 476 * 016 L □ # @ 0 ^ + + |                                 | D  | 47                       | 16                            | 80                            | 7.6           | 76            | 95             | 6            | 9                | 10           | 0.150                         | 1.37               | 1.23               | 0.55                | 0.11               | 0.10               | 0.04                |
| 95158 10 * * A                 | TBJ D 476 * 016 C □ # @ 0 ^ + + | TBJ D 476 * 016 C □ L @ 9 ^ + + | D  | 47                       | 16                            | 150                           | 7.5           | 75            | 94             | 6            | 9                | 9            | 0.150                         | 1.00               | 0.90               | 0.40                | 0.15               | 0.14               | 0.06                |
| 07016 079 * @ ^ +              | TBJ D 686 * 016 C □ # @ 0 ^ + + | TBJ D 686 * 016 C □ L @ 9 ^ + + | D  | 68                       | 16                            | 150                           | 10.9          | 109           | 136            | 6            | 9                | 10           | 0.150                         | 1.00               | 0.90               | 0.40                | 0.15               | 0.14               | 0.06                |
| 07016 080 * @ ^ +              | TBJ D 107 * 016 C □ # @ 0 ^ + + | TBJ D 107 * 016 C □ L @ 9 ^ + + | D  | 100                      | 16                            | 125                           | 16            | 160           | 200            | 6            | 9                | 10           | 0.150                         | 1.10               | 0.99               | 0.44                | 0.14               | 0.12               | 0.05                |
| 07016 081 * @ ^ +              | TBJ D 107 * 016 L □ # @ 0 ^ + + |                                 | D  | 100                      | 16                            | 50                            | 16            | 160           | 200            | 6            | 9                | 10           | 0.150                         | 1.73               | 1.56               | 0.69                | 0.09               | 0.08               | 0.03                |
| 95158 11 * * A                 | TBJ E 107 * 016 C □ # @ 0 ^ + + | TBJ E 107 * 016 C □ L @ 9 ^ + + | E  | 100                      | 16                            | 100                           | 16            | 160           | 200            | 6            | 9                | 10           | 0.165                         | 1.28               | 1.16               | 0.51                | 0.13               | 0.12               | 0.05                |
| 07016 082 M @ ^ +              | TBJ D 157 M 016 C □ # @ 0 ^ + + |                                 | D  | 150                      | 16                            | 150                           | 24            | 240           | 300            | 6            | 9                | 10           | 0.150                         | 1.00               | 0.90               | 0.40                | 0.15               | 0.14               | 0.06                |
| 07016 083 M @ ^ +              | TBJ D 157 M 016 L □ # @ 0 ^ + + |                                 | D  | 150                      | 16                            | 60                            | 24            | 240           | 300            | 6            | 9                | 10           | 0.150                         | 1.58               | 1.42               | 0.63                | 0.09               | 0.09               | 0.04                |
| 07016 084 * @ ^ +              | TBJ V 157 * 016 L □ # @ 0 ^ + + |                                 | V  | 150                      | 16                            | 45                            | 24            | 490           | 300            | 6            | 8                | 10           | 0.250                         | 2.36               | 2.12               | 0.94                | 0.11               | 0.10               | 0.04                |
| 07016 085 * @ ^ +              | TBJ V 227 * 016 L □ # @ 0 ^ + + |                                 | V  | 220                      | 16                            | 50                            | 35.2          | 352           | 440            | 8            | 10               | 12           | 0.250                         | 2.24               | 2.01               | 0.89                | 0.11               | 0.10               | 0.04                |
| 07016 086 * @ ^ +              | TBJ A 155 * 020 C □ # @ 0 ^ + + | TBJ A 155 * 020 C □ L @ 9 ^ + + | A  | 1.5                      | 20                            | 6500                          | 0.5           | 5             | 6              | 6            | 8                | 10           | 0.075                         | 0.11               | 0.10               | 0.04                | 0.70               | 0.63               | 0.28                |
| 07016 087 * @ ^ +              | TBJ A 225 * 020 C □ # @ 0 ^ + + | TBJ A 225 * 020 C □ L @ 9 ^ + + | A  | 2.2                      | 20                            | 3000                          | 0.5           | 5             | 6              | 6            | 8                | 10           | 0.075                         | 0.16               | 0.14               | 0.06                | 0.47               | 0.43               | 0.19                |
| 07016 088 * @ ^ +              | TBJ A 475 * 020 C □ # @ 0 ^ + + | TBJ A 475 * 020 C □ L @ 9 ^ + + | A  | 4.7                      | 20                            | 4000                          | 1             | 10            | 13             | 6            | 8                | 10           | 0.075                         | 0.14               | 0.12               | 0.05                | 0.55               | 0.49               | 0.22                |
| 07016 089 * @ ^ +              | TBJ A 475 * 020 L □ # @ 0 ^ + + | TBJ A 475 * 020 L □ L @ 9 ^ + + | A  | 4.7                      | 20                            | 1800                          | 1             | 10            | 13             | 6            | 8                | 10           | 0.075                         | 0.20               | 0.18               | 0.08                | 0.37               | 0.33               | 0.15                |
| 07016 090 * @ ^ +              | TBJ B 475 * 020 C □ # @ 0 ^ + + | TBJ B 475 * 020 C □ L @ 9 ^ + + | B  | 4.7                      | 20                            | 1000                          | 2             | 20            | 25             | 6            | 8                | 10           | 0.085                         | 0.29               | 0.26               | 0.12                | 0.29               | 0.26               | 0.12                |
| 07016 091 * @ ^ +              | TBJ B 685 * 020 C □ # @ 0 ^ + + | TBJ B 685 * 020 C □ L @ 9 ^ + + | B  | 6.8                      | 20                            | 1000                          | 1.4           | 14            | 18             | 6            | 8                | 10           | 0.085                         | 0.29               | 0.26               | 0.12                | 0.29               | 0.26               | 0.12                |
| 07016 092 * @ ^ +              | TBJ B 106 * 020 C □ # @ 0 ^ + + | TBJ B 106 * 020 C □ L @ 9 ^ + + | B  | 10                       | 20                            | 1000                          | 0.7           | 7             | 9              | 6            | 8                | 10           | 0.085                         | 0.29               | 0.26               | 0.12                | 0.29               | 0.26               | 0.12                |
| 07016 093 * @ ^ +              | TBJ B 106 * 020 L □ # @ 0 ^ + + |                                 | B  | 10                       | 20                            | 500                           | 0.7           | 7             | 9              | 6            | 8                | 10           | 0.085                         | 0.41               | 0.37               | 0.16                | 0.21               | 0.19               | 0.08                |
| 07016 094 * @ ^ +              | TBJ C 106 * 020 C □ # @ 0 ^ + + | TBJ C 106 * 020 C □ L @ 9 ^ + + | C  | 10                       | 20                            | 700                           | 1.4           | 14            | 18             | 6            | 8                | 10           | 0.110                         | 0.40               | 0.36               | 0.16                | 0.28               | 0.25               | 0.11                |
| 07016 095 * @ ^ +              | TBJ B 156 * 020 C □ # @ 0 ^ + + | TBJ B 156 * 020 C □ L @ 9 ^ + + | B  | 15                       | 20                            | 500                           | 3             | 30            | 38             | 6            | 8                | 10           | 0.085                         | 0.41               | 0.37               | 0.16                | 0.21               | 0.19               | 0.08                |
| 07016 096 * @ ^ +              | TBJ C 156 * 020 C □ # @ 0 ^ + + | TBJ C 156 * 020 C □ L @ 9 ^ + + | C  | 15                       | 20                            | 450                           | 3             | 30            | 38             | 6            | 8                | 10           | 0.110                         | 0.4                |                    |                     |                    |                    |                     |





# TBJ Series

## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level



| RATING & PART NUMBER REFERENCE |                                 |                                 | Parametric Specifications by Rating per DSCC 95158 or 07016 where applicable |                          |                               |                               |               |               |                |              |                    |              | Typical Ripple Data by Rating |                       |                                 |                                  |                                 |                                 |                                  |
|--------------------------------|---------------------------------|---------------------------------|--|--------------------------|-------------------------------|-------------------------------|---------------|---------------|----------------|--------------|--------------------|--------------|-------------------------------|-----------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
| DSCC P/N                       | AVX DSCC & COTS-Plus P/N        | AVX SRC9000 P/N                 | Case   | Cap @ 120Hz<br>µF @ 25°C | DC Rated Voltage<br>V @ +85°C | ESR @ 100kHz<br>mOhms @ +25°C | DCL max       |               |                | DF Max       |                    |              | Power Dissipation<br>W        | Ripple                |                                 |                                  |                                 |                                 |                                  |
|                                |                                 |                                 |  |                          |                               |                               | +25°C<br>(µA) | +85°C<br>(µA) | +125°C<br>(µA) | +25°C<br>(%) | +(85/125)°C<br>(%) | -55°C<br>(%) |                               | 25°C<br>A<br>(100kHz) | 85°C<br>Ripple<br>A<br>(100kHz) | 125°C<br>Ripple<br>A<br>(100kHz) | 25°C<br>Ripple<br>V<br>(100kHz) | 85°C<br>Ripple<br>V<br>(100kHz) | 125°C<br>Ripple<br>V<br>(100kHz) |
| 95158 20 * @ ^ +               | TBJ E 685 * 035 C □ # @ 0 ^ + + |                                 | E  | 6.8                      | 35                            | 300                           | 1.9           | 11.4          | 19             | 4            | 6                  | 6            | 0.165                         | 0.74                  | 0.67                            | 0.30                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 144 * @ ^ +              | TBJ C 106 * 035 C □ # @ 0 ^ + + | TBJ C 106 * 035 C □ L @ 9 ^ + + | C  | 10                       | 35                            | 1600                          | 3.5           | 35            | 44             | 6            | 9                  | 9            | 0.110                         | 0.26                  | 0.24                            | 0.10                             | 0.42                            | 0.38                            | 0.17                             |
| 95158 27 * @ ^ +               | TBJ D 106 * 035 C □ # @ 0 ^ + + |                                 | D  | 10                       | 35                            | 300                           | 3.5           | 35            | 44             | 4            | 6                  | 6            | 0.150                         | 0.71                  | 0.64                            | 0.28                             | 0.21                            | 0.19                            | 0.08                             |
| 07016 145 * @ ^ +              | TBJ D 106 * 035 L □ # @ 0 ^ + + |                                 | D  | 10                       | 35                            | 125                           | 3.5           | 35            | 42             | 6            | 9                  | 9            | 0.150                         | 1.10                  | 0.99                            | 0.44                             | 0.14                            | 0.12                            | 0.05                             |
| 95158 21 * @ ^ +               | TBJ E 106 * 035 C □ # @ 0 ^ + + |                                 | E  | 10                       | 35                            | 250                           | 2.8           | 16.8          | 28             | 4            | 6                  | 6            | 0.165                         | 0.81                  | 0.73                            | 0.32                             | 0.20                            | 0.18                            | 0.08                             |
| 07016 146 * @ ^ +              | TBJ C 156 * 035 C □ # @ 0 ^ + + |                                 | C  | 15                       | 35                            | 450                           | 5.3           | 53            | 66             | 6            | 9                  | 9            | 0.110                         | 0.49                  | 0.44                            | 0.20                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 147 * @ ^ +              | TBJ D 156 * 035 C □ # @ 0 ^ + + | TBJ D 156 * 035 C □ L @ 9 ^ + + | D  | 15                       | 35                            | 300                           | 5.3           | 53            | 66             | 6            | 9                  | 9            | 0.150                         | 0.71                  | 0.64                            | 0.28                             | 0.21                            | 0.19                            | 0.08                             |
| 07016 148 * @ ^ +              | TBJ D 156 * 035 L □ # @ 0 ^ + + |                                 | D  | 15                       | 35                            | 100                           | 5.3           | 53            | 66             | 6            | 9                  | 9            | 0.150                         | 1.22                  | 1.10                            | 0.49                             | 0.12                            | 0.11                            | 0.05                             |
| 95158 22 * @ ^ +               | TBJ E 156 * 035 C □ # @ 0 ^ + + |                                 | E  | 15                       | 35                            | 250                           | 5.3           | 53            | 65.6           | 6            | 9                  | 9            | 0.165                         | 0.81                  | 0.73                            | 0.32                             | 0.20                            | 0.18                            | 0.08                             |
| 07016 149 * @ ^ +              | TBJ D 226 * 035 C □ # @ 0 ^ + + | TBJ D 226 * 035 C □ L @ 9 ^ + + | D  | 22                       | 35                            | 400                           | 7.7           | 77            | 96             | 6            | 9                  | 9            | 0.150                         | 0.61                  | 0.55                            | 0.24                             | 0.24                            | 0.22                            | 0.10                             |
| 07016 150 * @ ^ +              | TBJ D 226 * 035 L □ # @ 0 ^ + + |                                 | D  | 22                       | 35                            | 125                           | 7.7           | 77            | 96             | 6            | 9                  | 9            | 0.150                         | 1.10                  | 0.99                            | 0.44                             | 0.14                            | 0.12                            | 0.05                             |
| 95158 23 * @ ^ +               | TBJ E 226 * 035 C □ # @ 0 ^ + + |                                 | E  | 22                       | 35                            | 300                           | 7.7           | 77            | 96             | 6            | 9                  | 9            | 0.165                         | 0.74                  | 0.67                            | 0.30                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 151 * @ ^ +              | TBJ E 226 * 035 L □ # @ 0 ^ + + |                                 | E  | 22                       | 35                            | 125                           | 7.7           | 77            | 96             | 6            | 9                  | 9            | 0.165                         | 1.15                  | 1.03                            | 0.46                             | 0.14                            | 0.13                            | 0.06                             |
| 07016 152 M @ ^ +              | TBJ D 336 M 035 C □ # @ 0 ^ + + |                                 | D  | 33                       | 35                            | 300                           | 11.6          | 116           | 145            | 6            | 9                  | 9            | 0.150                         | 0.71                  | 0.64                            | 0.28                             | 0.21                            | 0.19                            | 0.08                             |
| 07016 153 M @ ^ +              | TBJ D 336 M 035 L □ # @ 0 ^ + + |                                 | D  | 33                       | 35                            | 200                           | 11.6          | 116           | 145            | 6            | 9                  | 9            | 0.150                         | 0.87                  | 0.78                            | 0.35                             | 0.17                            | 0.16                            | 0.07                             |
| 07016 154 M @ ^ +              | TBJ E 336 M 035 L □ # @ 0 ^ + + | TBJ E 336 M 035 L □ L @ 9 ^ + + | E  | 33                       | 35                            | 300                           | 11.6          | 116           | 145            | 6            | 9                  | 9            | 0.165                         | 0.74                  | 0.67                            | 0.30                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 155 M @ ^ +              | TBJ E 476 M 035 L □ # @ 0 ^ + + |                                 | E  | 47                       | 35                            | 250                           | 16.5          | 165           | 206            | 6            | 9                  | 9            | 0.165                         | 0.81                  | 0.73                            | 0.32                             | 0.20                            | 0.18                            | 0.08                             |
| 07016 156 M @ ^ +              | TBJ V 476 M 035 L □ # @ 0 ^ + + |                                 | V  | 47                       | 35                            | 200                           | 16.5          | 165           | 206            | 6            | 9                  | 9            | 0.250                         | 1.12                  | 1.01                            | 0.45                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 157 M @ ^ +              | TBJ A 154 M 050 C □ # @ 0 ^ + + |                                 | A  | 0.15                     | 50                            | 15000                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.07                  | 0.06                            | 0.03                             | 1.06                            | 0.95                            | 0.42                             |
| 07016 158 M @ ^ +              | TBJ A 224 M 050 C □ # @ 0 ^ + + | TBJ A 224 M 050 C □ L @ 9 ^ + + | A  | 0.22                     | 50                            | 18000                         | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.06                  | 0.06                            | 0.03                             | 1.16                            | 1.05                            | 0.46                             |
| 07016 159 * @ ^ +              | TBJ A 474 * 050 C □ # @ 0 ^ + + |                                 | A  | 0.47                     | 50                            | 9500                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.09                  | 0.08                            | 0.04                             | 0.84                            | 0.76                            | 0.34                             |
| 07016 160 * @ ^ +              | TBJ B 474 * 050 C □ # @ 0 ^ + + | TBJ B 474 * 050 C □ L @ 9 ^ + + | B  | 0.47                     | 50                            | 9500                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.09                  | 0.09                            | 0.04                             | 0.90                            | 0.81                            | 0.36                             |
| 07016 161 * @ ^ +              | TBJ A 684 * 050 C □ # @ 0 ^ + + |                                 | A  | 0.68                     | 50                            | 7900                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.10                  | 0.09                            | 0.04                             | 0.77                            | 0.69                            | 0.31                             |
| 07016 162 M @ ^ +              | TBJ A 105 M 050 C □ # @ 0 ^ + + |                                 | A  | 1.0                      | 50                            | 6600                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.075                         | 0.11                  | 0.10                            | 0.04                             | 0.70                            | 0.63                            | 0.28                             |
| 07016 163 * @ ^ +              | TBJ B 105 * 050 C □ # @ 0 ^ + + | TBJ B 105 * 050 C □ L @ 9 ^ + + | B  | 1.0                      | 50                            | 7000                          | 0.5           | 5             | 6              | 4            | 6                  | 6            | 0.085                         | 0.11                  | 0.10                            | 0.04                             | 0.77                            | 0.69                            | 0.31                             |
| 07016 164 * @ ^ +              | TBJ C 155 * 050 L □ # @ 0 ^ + + | TBJ C 155 * 050 L □ L @ 9 ^ + + | C  | 1.5                      | 50                            | 2000                          | 0.8           | 8             | 10             | 6            | 8                  | 9            | 0.110                         | 0.23                  | 0.21                            | 0.09                             | 0.47                            | 0.42                            | 0.19                             |
| 07016 165 * @ ^ +              | TBJ D 155 * 050 L □ # @ 0 ^ + + | TBJ D 155 * 050 L □ L @ 9 ^ + + | D  | 1.5                      | 50                            | 1500                          | 0.8           | 8             | 10             | 6            | 8                  | 9            | 0.150                         | 0.32                  | 0.28                            | 0.13                             | 0.47                            | 0.43                            | 0.19                             |
| 07016 166 * @ ^ +              | TBJ D 225 * 050 L □ # @ 0 ^ + + | TBJ D 225 * 050 L □ L @ 9 ^ + + | D  | 2.2                      | 50                            | 1200                          | 1.1           | 11            | 14             | 6            | 8                  | 9            | 0.150                         | 0.35                  | 0.32                            | 0.14                             | 0.42                            | 0.38                            | 0.17                             |
| 07016 167 * @ ^ +              | TBJ D 335 * 050 L □ # @ 0 ^ + + | TBJ D 335 * 050 L □ L @ 9 ^ + + | D  | 3.3                      | 50                            | 800                           | 1.7           | 17            | 21             | 6            | 9                  | 9            | 0.150                         | 0.43                  | 0.39                            | 0.17                             | 0.35                            | 0.31                            | 0.14                             |
| 07016 168 * @ ^ +              | TBJ D 475 * 050 L □ # @ 0 ^ + + | TBJ D 475 * 050 L □ L @ 9 ^ + + | D  | 4.7                      | 50                            | 300                           | 2.4           | 24            | 30             | 6            | 9                  | 9            | 0.150                         | 0.71                  | 0.64                            | 0.28                             | 0.21                            | 0.19                            | 0.08                             |
| 95158 24 * @ ^ +               | TBJ E 475 * 050 C □ # @ 0 ^ + + |                                 | E  | 4.7                      | 50                            | 300                           | 1.9           | 11.4          | 19             | 4            | 6                  | 6            | 0.165                         | 0.74                  | 0.67                            | 0.30                             | 0.22                            | 0.20                            | 0.09                             |
| 07016 169 * @ ^ +              | TBJ D 685 * 050 C □ # @ 0 ^ + + | TBJ D 685 * 050 C □ L @ 9 ^ + + | D  | 6.8                      | 50                            | 600                           | 3.4           | 34            | 43             | 6            | 6                  | 6            | 0.150                         | 0.50                  | 0.45                            | 0.20                             | 0.30                            | 0.27                            | 0.12                             |
| 07016 170 * @ ^ +              | TBJ D 685 * 050 L □ # @ 0 ^ + + |                                 | D  | 6.8                      | 50                            | 300                           | 3.4           | 34            | 43             | 6            | 6                  | 6            | 0.150                         | 0.71                  | 0.64                            | 0.28                             | 0.21                            | 0.19                            | 0.08                             |
| 07016 171 * @ ^ +              | TBJ E 685 * 050 C □ # @ 0 ^ + + |                                 | E  | 6.8                      | 50                            | 400                           | 3.4           | 34            | 43             | 6            | 6                  | 6            | 0.165                         | 0.64                  | 0.58                            | 0.26                             | 0.26                            | 0.23                            | 0.10                             |

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.

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.

