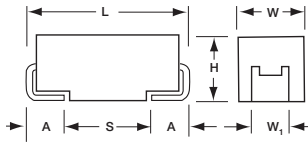


# TBJ SERIES

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



### MARKING

(Brown marking on gold body)



**Polarity Stripe (+)**  
**"J" for "JAN" Brand**  
**Capacitance Code**  
**Rated Voltage**  
**Manufacturer's ID**

### GENERAL DESCRIPTION

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 convection reflow solder, conductive epoxy or compression bonding techniques. The part also carries full polarity, capacitance / voltage and JAN brand marking.

The series is qualified to MIL-PRF-55365 Weibull "B", "C", "D" and "T" levels, with all surge options ("A", "B" & "C") available. 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 ASTM E-595.

For moisture sensitivity levels please refer to the High Reliability Tantalum MSL section located in the back of the High Reliability Tantalum Catalog.

### CASE DIMENSIONS: millimeters (inches)

| Case Code | EIA Metric | Length (L)                 | Width (W)                  | Height (H)                 | Term. Width (W <sub>t</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)                 | 1.10 (0.043) |
| 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> ) at 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       |         | 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      | D       |         |         |         |         |         |
| 68          | 686  | D  | D      |         |         |         |         |         |         |
| 100         | 107  | D  |        |         |         |         |         |         |         |

# TBJ SERIES

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



### HOW TO ORDER

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

|             |                  |   |   |   |   |   |   |   |   |  |   |
|-------------|------------------|---|---|---|---|---|---|---|---|--|---|
| <b>TBJ</b>  | <b>D</b>         | <b>686</b>  | <b>*</b>  | <b>006</b>  | <b>C</b>  | <b>□</b>  | <b>#</b>  | <b>@</b>  | <b>0</b>  | <b>^</b>   | <b>++</b>   |
| <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 | <b>Packaging</b><br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 8 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>Z = Non-ER | <b>Qualification Level</b><br>0 = N/A<br>T = T Level<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 |

For RoHS compliant products, please select correct termination style.

#### CWR11 P/N CROSS REFERENCE:

|              |   |  |   |   |  |  |   |
|--------------|---|--|---|---|--|--|---|
| <b>CWR11</b> | <b>D</b>  | <b>^</b>   | <b>686</b>  | <b>*</b>  | <b>@</b>   | <b>+</b>   | <b>□</b>  |
| <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<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><br>If blank, None required | <b>Packaging</b><br>Bulk = Standard<br>TR = 7" T&R<br>WR = Waffle<br><br>See page 8 for additional packaging options. |

For RoHS compliant products, please select correct termination style.

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

|             |                  |   |   |   |   |   |  |   |   |   |  |
|-------------|------------------|---|---|---|---|---|--|---|---|---|--|
| <b>TBJ</b>  | <b>D</b>         | <b>686</b>  | <b>*</b>  | <b>006</b>  | <b>C</b>  | <b>□</b>  | <b>L</b>                               | <b>@</b>  | <b>9</b>                                  | <b>^</b>  | <b>++</b>  |
| <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 | <b>Packaging</b><br>B = Bulk<br>R = 7" T&R<br>S = 13" T&R<br>W = Waffle<br><br>See page 8 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>45 = 10 cycles, -55°C & +85°C before Weibull<br>GC = Group C Testing and Data<br>OR = TOR compliant testing and data |

For RoHS compliant products, please select correct termination style.

\*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:                 | 0.10 µF to 330 µF   |     |     |      |      |      |      |      |      |  |
| Capacitance Tolerance:             | ±5%; ±10%; ±20%   |     |     |      |      |      |      |      |      |  |
| Rated Voltage (V <sub>R</sub> )    | ≤ 85°C:   | 4   | 6   | 10   | 15   | 20   | 25   | 35   | 50   |  |
| Category Voltage (V <sub>C</sub> ) | ≤125°C:   | 2.7 | 4   | 6.7  | 10   | 13.3 | 16.7 | 23.3 | 33.3 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ 85°C:   | 5.3 | 8   | 13.3 | 20   | 26.7 | 33.3 | 46.7 | 66.7 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤125°C:   | 3.5 | 5.3 | 8.7  | 13.3 | 17.8 | 22.2 | 31.1 | 44.5 |  |
| Temperature Range:                 | -55°C to +125°C   |     |     |      |      |      |      |      |      |  |



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# 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 RMS |             |  |
|--------------------------------|---------------------------|---------------------------|------|---|------------------|--------------|---------|-------|--------|--------|-------------|-------|-------------------|-------------|-------------|--|
|                                |                           |                           |      | Cap @ 120Hz   | DC Rated Voltage | ESR @ 100kHz | DCL max |       |        | DF Max |             |       | Power Dissipation | 25°C Ripple | 85°C Ripple |  |
|                                |                           |                           |      |   |                  |              | +25°C   | +85°C | +125°C | +25°C  | +(85/125)°C | -55°C |                   |             |             |  |
| CWR11 P/N                      | AVX COTS-Plus P/N         | AVX SRC9000 P/N           | Case | µF @ 25°C   | V @ +85°C        | Ohms @ +25°C | (µA)    | (µA)  | (µA)   | (%)    | (%)         | (%)   | W                 | A (100kHz)  | A (100kHz)  |  |
| CWR11C225@+□                   | TBJA 225*004 C □ # @ 0^++ | TBJA 225*004 C □ L @ 9^++ | A    | 2.2   | 4                | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11C475@+□                   | TBJA 475*004 C □ # @ 0^++ | TBJA 475*004 C □ L @ 9^++ | A    | 4.7   | 4                | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11C685@+□                   | TBJB 685*004 C □ # @ 0^++ | TBJB 685*004 C □ L @ 9^++ | B    | 6.8   | 4                | 5.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.12        | 0.11        |  |
| CWR11C106@+□                   | TBJB 106*004 C □ # @ 0^++ | TBJB 106*004 C □ L @ 9^++ | B    | 10  | 4                | 4            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.15        | 0.13        |  |
| CWR11C156@+□                   | TBJB 156*004 C □ # @ 0^++ | TBJB 156*004 C □ L @ 9^++ | B    | 15  | 4                | 3.5          | 0.6     | 6     | 7.2    | 6      | 9           | 9     | 0.085             | 0.16        | 0.14        |  |
| CWR11C336@+□                   | TBJC 336*004 C □ # @ 0^++ | TBJC 336*004 C □ L @ 9^++ | C    | 33  | 4                | 2.2          | 1.3     | 13    | 15.6   | 6      | 9           | 9     | 0.110             | 0.22        | 0.20        |  |
| CWR11C686@+□                   | TBJD 686*004 C □ # @ 0^++ | TBJD 686*004 C □ L @ 9^++ | D    | 68  | 4                | 1.1          | 2.7     | 27    | 32.4   | 6      | 9           | 9     | 0.150             | 0.37        | 0.33        |  |
| CWR11C107@+□                   | TBJD 107*004 C □ # @ 0^++ | TBJD 107*004 C □ L @ 9^++ | D    | 100   | 4                | 0.9          | 4       | 40    | 48     | 8      | 12          | 12    | 0.150             | 0.41        | 0.37        |  |
| CWR11D155@+□                   | TBJA 155*006 C □ # @ 0^++ | TBJA 155*006 C □ L @ 9^++ | A    | 1.5   | 6                | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11D225@+□                   | TBJA 225*006 C □ # @ 0^++ | TBJA 225*006 C □ L @ 9^++ | A    | 2.2   | 6                | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11D335@+□                   | TBJA 335*006 C □ # @ 0^++ | TBJA 335*006 C □ L @ 9^++ | A    | 3.3   | 6                | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11D475@+□                   | TBJB 475*006 C □ # @ 0^++ | TBJB 475*006 C □ L @ 9^++ | B    | 4.7   | 6                | 5.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.12        | 0.11        |  |
| CWR11D685@+□                   | TBJB 685*006 C □ # @ 0^++ | TBJB 685*006 C □ L @ 9^++ | B    | 6.8   | 6                | 4.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.14        | 0.12        |  |
| CWR11D106@+□                   | TBJB 106*006 C □ # @ 0^++ | TBJB 106*006 C □ L @ 9^++ | B    | 10  | 6                | 3.5          | 0.6     | 6     | 7.2    | 6      | 9           | 9     | 0.085             | 0.16        | 0.14        |  |
| CWR11D156@+□                   | TBJC 156*006 C □ # @ 0^++ | TBJC 156*006 C □ L @ 9^++ | C    | 15  | 6                | 3            | 0.9     | 9     | 10.8   | 6      | 9           | 9     | 0.110             | 0.19        | 0.17        |  |
| CWR11D226@+□                   | TBJC 226*006 C □ # @ 0^++ | TBJC 226*006 C □ L @ 9^++ | C    | 22  | 6                | 2.2          | 1.4     | 14    | 16.8   | 6      | 9           | 9     | 0.110             | 0.22        | 0.20        |  |
| CWR11D476@+□                   | TBJD 476*006 C □ # @ 0^++ | TBJD 476*006 C □ L @ 9^++ | D    | 47  | 6                | 1.1          | 2.8     | 28    | 33.6   | 6      | 9           | 9     | 0.150             | 0.37        | 0.33        |  |
| CWR11D686@+□                   | TBJD 686*006 C □ # @ 0^++ | TBJD 686*006 C □ L @ 9^++ | D    | 68  | 6                | 0.9          | 4.3     | 43    | 51.6   | 6      | 9           | 9     | 0.150             | 0.41        | 0.37        |  |
| CWR11F105@+□                   | TBJA 105*010 C □ # @ 0^++ | TBJA 105*010 C □ L @ 9^++ | A    | 1   | 10               | 10           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.09        | 0.08        |  |
| CWR11F155@+□                   | TBJA 155*010 C □ # @ 0^++ | TBJA 155*010 C □ L @ 9^++ | A    | 1.5   | 10               | 8            | 0.5     | 5     | 6      | 6      | 6           | 6     | 0.075             | 0.10        | 0.09        |  |
| CWR11F225@+□                   | TBJA 225*010 C □ # @ 0^++ | TBJA 225*010 C □ L @ 9^++ | A    | 2.2   | 10               | 8            | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.075             | 0.10        | 0.09        |  |
| CWR11F335@+□                   | TBJB 335*010 C □ # @ 0^++ | TBJB 335*010 C □ L @ 9^++ | B    | 3.3   | 10               | 5.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.12        | 0.11        |  |
| CWR11F475@+□                   | TBJB 475*010 C □ # @ 0^++ | TBJB 475*010 C □ L @ 9^++ | B    | 4.7   | 10               | 4.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.14        | 0.12        |  |
| CWR11F685@+□                   | TBJB 685*010 C □ # @ 0^++ | TBJB 685*010 C □ L @ 9^++ | B    | 6.8   | 10               | 3.5          | 0.7     | 7     | 8.4    | 6      | 9           | 9     | 0.085             | 0.16        | 0.14        |  |
| CWR11F156@+□                   | TBJC 156*010 C □ # @ 0^++ | TBJC 156*010 C □ L @ 9^++ | C    | 15  | 10               | 2.5          | 1.5     | 15    | 18     | 6      | 6           | 6     | 0.110             | 0.21        | 0.19        |  |
| CWR11F336@+□                   | TBJD 336*010 C □ # @ 0^++ | TBJD 336*010 C □ L @ 9^++ | D    | 33  | 10               | 1.1          | 3.3     | 33    | 39.6   | 6      | 9           | 9     | 0.150             | 0.37        | 0.33        |  |
| CWR11F476@+□                   | TBJD 476*010 C □ # @ 0^++ | TBJD 476*010 C □ L @ 9^++ | D    | 47  | 10               | 0.9          | 4.7     | 47    | 56.4   | 6      | 9           | 9     | 0.150             | 0.41        | 0.37        |  |
| CWR11H684@+□                   | TBJA 684*015 C □ # @ 0^++ | TBJA 684*015 C □ L @ 9^++ | A    | 0.68  | 15               | 12           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.08        | 0.07        |  |
| CWR11H105@+□                   | TBJA 105*015 C □ # @ 0^++ | TBJA 105*015 C □ L @ 9^++ | A    | 1   | 15               | 10           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.09        | 0.08        |  |
| CWR11H155@+□                   | TBJA 155*015 C □ # @ 0^++ | TBJA 155*015 C □ L @ 9^++ | A    | 1.5   | 15               | 8            | 0.5     | 5     | 6      | 6      | 6           | 6     | 0.075             | 0.10        | 0.09        |  |
| CWR11H225@+□                   | TBJB 225*015 C □ # @ 0^++ | TBJB 225*015 C □ L @ 9^++ | B    | 2.2   | 15               | 5.5          | 0.5     | 5     | 6      | 6      | 9           | 9     | 0.085             | 0.12        | 0.11        |  |
| CWR11H335@+□                   | TBJB 335*015 C □ # @ 0^++ | TBJB 335*015 C □ L @ 9^++ | B    | 3.3   | 15               | 5            | 0.5     | 5     | 6      | 6      | 8           | 8     | 0.085             | 0.13        | 0.12        |  |
| CWR11H475@+□                   | TBJB 475*015 C □ # @ 0^++ | TBJB 475*015 C □ L @ 9^++ | B    | 4.7   | 15               | 4            | 0.7     | 7     | 8.4    | 6      | 9           | 9     | 0.085             | 0.15        | 0.13        |  |
| CWR11H106@+□                   | TBJC 106*015 C □ # @ 0^++ | TBJC 106*015 C □ L @ 9^++ | C    | 10  | 15               | 2.5          | 1.6     | 16    | 19.2   | 6      | 8           | 8     | 0.110             | 0.21        | 0.19        |  |
| CWR11H226@+□                   | TBJD 226*015 C □ # @ 0^++ | TBJD 226*015 C □ L @ 9^++ | D    | 22  | 15               | 1.1          | 3.3     | 33    | 39.6   | 6      | 8           | 8     | 0.150             | 0.37        | 0.33        |  |
| CWR11H336@+□                   | TBJD 336*015 C □ # @ 0^++ | TBJD 336*015 C □ L @ 9^++ | D    | 33  | 15               | 0.9          | 5.3     | 53    | 63.6   | 6      | 9           | 9     | 0.150             | 0.41        | 0.37        |  |
| CWR11J474@+□                   | TBJA 474*020 C □ # @ 0^++ | TBJA 474*020 C □ L @ 9^++ | A    | 0.47  | 20               | 14           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.07        | 0.07        |  |
| CWR11J684@+□                   | TBJA 684*020 C □ # @ 0^++ | TBJA 684*020 C □ L @ 9^++ | A    | 0.68  | 20               | 12           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.08        | 0.07        |  |
| CWR11J105@+□                   | TBJA 105*020 C □ # @ 0^++ | TBJA 105*020 C □ L @ 9^++ | A    | 1   | 20               | 10           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.09        | 0.08        |  |
| CWR11J155@+□                   | TBJB 155*020 C □ # @ 0^++ | TBJB 155*020 C □ L @ 9^++ | B    | 1.5   | 20               | 6            | 0.5     | 5     | 6      | 6      | 6           | 6     | 0.085             | 0.12        | 0.11        |  |
| CWR11J225@+□                   | TBJB 225*020 C □ # @ 0^++ | TBJB 225*020 C □ L @ 9^++ | B    | 2.2   | 20               | 5            | 0.5     | 5     | 6      | 6      | 8           | 8     | 0.085             | 0.13        | 0.12        |  |
| CWR11J335@+□                   | TBJB 335*020 C □ # @ 0^++ | TBJB 335*020 C □ L @ 9^++ | B    | 3.3   | 20               | 4            | 0.7     | 7     | 8.4    | 6      | 6           | 6     | 0.085             | 0.15        | 0.13        |  |
| CWR11J475@+□                   | TBJC 475*020 C □ # @ 0^++ | TBJC 475*020 C □ L @ 9^++ | C    | 4.7   | 20               | 3            | 1       | 10    | 12     | 6      | 8           | 8     | 0.110             | 0.19        | 0.17        |  |
| CWR11J685@+□                   | TBJC 685*020 C □ # @ 0^++ | TBJC 685*020 C □ L @ 9^++ | C    | 6.8   | 20               | 2.4          | 1.4     | 14    | 16.8   | 6      | 9           | 9     | 0.110             | 0.21        | 0.19        |  |
| CWR11J156@+□                   | TBJD 156*020 C □ # @ 0^++ | TBJD 156*020 C □ L @ 9^++ | D    | 15  | 20               | 1.1          | 3       | 30    | 36     | 6      | 8           | 8     | 0.150             | 0.37        | 0.33        |  |
| CWR11J226@+□                   | TBJD 226*020 C □ # @ 0^++ | TBJD 226*020 C □ L @ 9^++ | D    | 22  | 20               | 0.9          | 4.4     | 44    | 52.8   | 6      | 9           | 9     | 0.150             | 0.41        | 0.37        |  |
| CWR11K334@+□                   | TBJA 334*025 C □ # @ 0^++ | TBJA 334*025 C □ L @ 9^++ | A    | 0.33  | 25               | 15           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.07        | 0.06        |  |
| CWR11K474@+□                   | TBJA 474*025 C □ # @ 0^++ | TBJA 474*025 C □ L @ 9^++ | A    | 0.47  | 25               | 14           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.07        | 0.07        |  |
| CWR11K684@+□                   | TBJB 684*025 C □ # @ 0^++ | TBJB 684*025 C □ L @ 9^++ | B    | 0.68  | 25               | 7.5          | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.11        | 0.10        |  |
| CWR11K105@+□                   | TBJB 105*025 C □ # @ 0^++ | TBJB 105*025 C □ L @ 9^++ | B    | 1   | 25               | 6.5          | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.11        | 0.10        |  |
| CWR11K155@+□                   | TBJB 155*025 C □ # @ 0^++ | TBJB 155*025 C □ L @ 9^++ | B    | 1.5   | 25               | 6.5          | 0.5     | 5     | 6      | 6      | 8           | 8     | 0.085             | 0.11        | 0.10        |  |
| CWR11K225@+□                   | TBJC 225*025 C □ # @ 0^++ | TBJC 225*025 C □ L @ 9^++ | C    | 2.2   | 25               | 3.5          | 0.6     | 7.2   | 6      | 6      | 9           | 9     | 0.110             | 0.18        | 0.16        |  |
| CWR11K335@+□                   | TBJC 335*025 C □ # @ 0^++ | TBJC 335*025 C □ L @ 9^++ | C    | 3.3   | 25               | 3.5          | 0.9     | 9     | 10.8   | 6      | 8           | 8     | 0.110             | 0.18        | 0.16        |  |
| CWR11K475@+□                   | TBJC 475*025 C □ # @ 0^++ | TBJC 475*025 C □ L @ 9^++ | C    | 4.7   | 25               | 2.5          | 1.2     | 12    | 14.4   | 6      | 9           | 9     | 0.110             | 0.21        | 0.19        |  |
| CWR11K685@+□                   | TBJD 685*025 C □ # @ 0^++ | TBJD 685*025 C □ L @ 9^++ | D    | 6.8   | 25               | 1.4          | 1.7     | 17    | 20.4   | 6      | 9           | 9     | 0.150             | 0.33        | 0.29        |  |
| CWR11K106@+□                   | TBJD 106*025 C □ # @ 0^++ | TBJD 106*025 C □ L @ 9^++ | D    | 10  | 25               | 1.2          | 2.5     | 25    | 30     | 6      | 8           | 8     | 0.150             | 0.35        | 0.32        |  |

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 100kHz. **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 RMS |             |  |
|--------------------------------|---------------------|---------------------|------|---|------------------|--------------|---------|-------|--------|--------|-------------|-------|-------------------|-------------|-------------|--|
|                                |                     |                     |      | Cap @ 120Hz   | DC Rated Voltage | ESR @ 100kHz | DCL max |       |        | DF Max |             |       | Power Dissipation | 25°C Ripple | 85°C Ripple |  |
|                                |                     |                     |      |   |                  |              | +25°C   | +85°C | +125°C | +25°C  | +(85/125)°C | -55°C |                   |             |             |  |
| CWR11 P/N                      | AVX COTS-Plus P/N   | AVX SRC9000 P/N     | Case | µF @ 25°C   | V @ +85°C        | Ohms @ +25°C | (µA)    | (µA)  | (µA)   | (%)    | (%)         | (%)   | W                 | A (100kHz)  | A (100kHz)  |  |
| CWR11K*156*+□                  | TBJD156*025C□#@0^++ | TBJD156*025C□L@9^++ | D    | 15  | 25               | 1            | 3.8     | 38    | 45.6   | 6      | 9           | 9     | 0.150             | 0.39        | 0.35        |  |
| CWR11M*104*+□                  | TBJA104*035C□#@0^++ | TBJA104*035C□L@9^++ | A    | 0.1   | 35               | 24           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.06        | 0.05        |  |
| CWR11M*154*+□                  | TBJA154*035C□#@0^++ | TBJA154*035C□L@9^++ | A    | 0.15  | 35               | 21           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.06        | 0.05        |  |
| CWR11M*224*+□                  | TBJA224*035C□#@0^++ | TBJA224*035C□L@9^++ | A    | 0.22  | 35               | 18           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.06        | 0.06        |  |
| CWR11M*334*+□                  | TBJA334*035C□#@0^++ | TBJA334*035C□L@9^++ | A    | 0.33  | 35               | 15           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.075             | 0.07        | 0.06        |  |
| CWR11M*474*+□                  | TBJB474*035C□#@0^++ | TBJB474*035C□L@9^++ | B    | 0.47  | 35               | 10           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.09        | 0.08        |  |
| CWR11M*684*+□                  | TBJB684*035C□#@0^++ | TBJB684*035C□L@9^++ | B    | 0.68  | 35               | 8            | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.10        | 0.09        |  |
| CWR11M*105*+□                  | TBJB105*035C□#@0^++ | TBJB105*035C□L@9^++ | B    | 1   | 35               | 6.5          | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.11        | 0.10        |  |
| CWR11M*155*+□                  | TBJC155*035C□#@0^++ | TBJC155*035C□L@9^++ | C    | 1.5   | 35               | 4.5          | 0.5     | 5     | 6      | 6      | 8           | 9     | 0.110             | 0.16        | 0.14        |  |
| CWR11M*225*+□                  | TBJC225*035C□#@0^++ | TBJC225*035C□L@9^++ | C    | 2.2   | 35               | 3.5          | 0.8     | 8     | 9.6    | 6      | 8           | 9     | 0.110             | 0.18        | 0.16        |  |
| CWR11M*335*+□                  | TBJC335*035C□#@0^++ | TBJC335*035C□L@9^++ | C    | 3.3   | 35               | 2.5          | 1.2     | 12    | 14.4   | 6      | 8           | 9     | 0.110             | 0.21        | 0.19        |  |
| CWR11M*475*+□                  | TBJD475*035C□#@0^++ | TBJD475*035C□L@9^++ | D    | 4.7   | 35               | 1.5          | 1.7     | 17    | 20.4   | 6      | 8           | 9     | 0.150             | 0.32        | 0.28        |  |
| CWR11M*685*+□                  | TBJD685*035C□#@0^++ | TBJD685*035C□L@9^++ | D    | 6.8   | 35               | 1.3          | 2.4     | 24    | 28.8   | 6      | 9           | 9     | 0.150             | 0.34        | 0.31        |  |
| CWR11N*104*+□                  | TBJA104*050C□#@0^++ | TBJA104*050C□L@9^++ | A    | 0.1   | 50               | 22           | 0.5     | 5     | 12     | 6      | 8           | 8     | 0.075             | 0.06        | 0.05        |  |
| CWR11N*154*+□                  | TBJB154*050C□#@0^++ | TBJB154*050C□L@9^++ | B    | 0.15  | 50               | 17           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.07        | 0.06        |  |
| CWR11N*224*+□                  | TBJB224*050C□#@0^++ | TBJB224*050C□L@9^++ | B    | 0.22  | 50               | 14           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.08        | 0.07        |  |
| CWR11N*334*+□                  | TBJB334*050C□#@0^++ | TBJB334*050C□L@9^++ | B    | 0.33  | 50               | 12           | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.085             | 0.08        | 0.08        |  |
| CWR11N*474*+□                  | TBJC474*050C□#@0^++ | TBJC474*050C□L@9^++ | C    | 0.47  | 50               | 8            | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.110             | 0.12        | 0.11        |  |
| CWR11N*684*+□                  | TBJC684*050C□#@0^++ | TBJC684*050C□L@9^++ | C    | 0.68  | 50               | 7            | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.110             | 0.13        | 0.11        |  |
| CWR11N*105*+□                  | TBJC105*050C□#@0^++ | TBJC105*050C□L@9^++ | C    | 1   | 50               | 6            | 0.5     | 5     | 6      | 4      | 6           | 6     | 0.110             | 0.14        | 0.12        |  |
| CWR11N*155*+□                  | TBJD155*050C□#@0^++ | TBJD155*050C□L@9^++ | D    | 1.5   | 50               | 4            | 0.8     | 8     | 9.6    | 6      | 8           | 9     | 0.150             | 0.19        | 0.17        |  |
| CWR11N*225*+□                  | TBJD225*050C□#@0^++ | TBJD225*050C□L@9^++ | D    | 2.2   | 50               | 2.5          | 1.1     | 11    | 13.2   | 6      | 8           | 9     | 0.150             | 0.24        | 0.22        |  |
| CWR11N*335*+□                  | TBJD335*050C□#@0^++ | TBJD335*050C□L@9^++ | D    | 3.3   | 50               | 2            | 1.7     | 17    | 20.4   | 6      | 9           | 9     | 0.150             | 0.27        | 0.25        |  |
| CWR11N*475*+□                  | TBJD475*050C□#@0^++ | TBJD475*050C□L@9^++ | D    | 4.7   | 50               | 1.5          | 2.4     | 24    | 28.8   | 6      | 9           | 9     | 0.150             | 0.32        | 0.28        |  |

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