

# TAZ Series



## CWR19 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level



An extended range of capacitor ratings beyond CWR09 that is fully qualified to MIL-PRF-55365/11, this series represents the most flexible of surface mount form factors, offering nine case sizes (the original A through H of CWR09) and adds the new X case size.

The molded body / compliant termination construction ensures 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 parts also carry full polarity and capacitance / voltage marking.

The four smaller cases are characterized by their low profile construction, with the A case being the world's smallest molded military tantalum chip.

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 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 are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365). In addition, the molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.

The TAZ "X" case size components are considered to be MSL 3 in accordance with J-STD-020.



### MARKING

(White marking on black body)



**Polarity Stripe (+)**

**Capacitance Code  
Rated Voltage**

### CASE DIMENSIONS:

millimeters (inches)

| Case Code | Length (L)<br>±0.38 (0.015) | Width (W)<br>±0.38 (0.015) | Height (H)<br>±0.38 (0.015) | Term. Width (W <sub>t</sub> )           | Term. Length (A)<br>+0.25/-0.13<br>(+0.010/-0.005) | S min        | Typical Weight (g) |
|-----------|-----------------------------|----------------------------|-----------------------------|-----------------------------------------|----------------------------------------------------|--------------|--------------------|
| A         | 2.54 (0.100)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 0.38 (0.015) | 0.016              |
| B         | 3.81 (0.150)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 1.65 (0.065) | 0.025              |
| C         | 5.08 (0.200)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 2.92 (0.115) | 0.035              |
| D         | 3.81 (0.150)                | 2.54 (0.100)               | 1.27 (0.050)                | 2.41±0.13/-0.25<br>(0.095±0.005/-0.010) | 0.76 (0.030)                                       | 1.65 (0.065) | 0.045              |
| E         | 5.08 (0.200)                | 2.54 (0.100)               | 1.27 (0.050)                | 2.41±0.13/-0.25<br>(0.095±0.005/-0.010) | 0.76 (0.030)                                       | 2.92 (0.115) | 0.065              |
| F         | 5.59 (0.220)                | 3.43 (0.135)               | 1.78 (0.070)                | 3.30±0.13<br>(0.130±0.005)              | 0.76 (0.030)                                       | 3.43 (0.135) | 0.125              |
| G         | 6.73 (0.265)                | 2.79 (0.110)               | 2.79 (0.110)                | 2.67±0.13<br>(0.105±0.005)              | 1.27 (0.050)                                       | 3.56 (0.140) | 0.205              |
| H         | 7.24 (0.285)                | 3.81 (0.150)               | 2.79 (0.110)                | 3.68±0.13/-0.51<br>(0.145±0.005/-0.020) | 1.27 (0.050)                                       | 4.06 (0.160) | 0.035              |
| X         | 6.93 Max<br>(0.273)         | 5.41 Max<br>(0.213)        | 2.74 Max<br>(0.108)         | 3.05±0.13<br>(0.120±0.005)              | 1.19 (0.047)                                       | N/A          | 0.420              |

### CWR19-MIL-PRF 55365/11

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (VOLTAGE CODE) RANGE (LETTER DENOTES 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) |
| 0.10        | 104  |                                            |        |         |         |         |         |         |
| 0.15        | 154  |                                            |        |         |         |         |         |         |
| 0.22        | 224  |                                            |        |         |         |         |         |         |
| 0.33        | 334  |                                            |        |         |         |         |         | A       |
| 0.47        | 474  |                                            |        |         |         |         | A       |         |
| 0.68        | 684  |                                            |        |         |         | A       |         |         |
| 1.0         | 105  |                                            |        |         | A       | A       | B       |         |
| 1.5         | 155  |                                            |        |         | A       | B       |         |         |
| 2.2         | 225  |                                            |        | A       | A       | B       | D       |         |
| 3.3         | 335  | A                                          | A      | A       | B       | D       | E       |         |
| 4.7         | 475  | A                                          | A      | B/C     | B/C/D   | E       |         |         |
| 6.8         | 685  | A                                          | B      | B/C/D   | D/E     | E       | F       | G       |
| 10          | 106  | B                                          | B      | B/C/D/E | D/E     | E/F     |         | H       |
| 15          | 156  | B                                          | B/D/E  | D/E     | E/F     | F       | G       |         |
| 22          | 226  | B/D                                        | D/E    | E       | F       | G       | G/H     |         |
| 33          | 336  | D/E                                        | E      | F       | F/G     | H       | H       |         |
| 47          | 476  | E                                          | F      | F/G     | G/H     | H/X     |         |         |
| 68          | 686  | E                                          | F/G    | G       | G/H     |         |         |         |
| 100         | 107  | F                                          | G      | G/H     | H       |         |         |         |
| 150         | 157  | G                                          | G      | H/X     |         |         |         |         |
| 220         | 227  | H                                          | H      | H       |         |         |         |         |
| 330         | 337  | H                                          | H      |         |         |         |         |         |



### HOW TO ORDER

#### COTS-PLUS & MIL QPL (CWR19):

| TAZ  | H         | 227                                                                                                                                      | *                                                        | 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 | 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 6 for additional packaging options. | Inspection Level<br>S = Std. Conformance<br>L = Group A<br><br>M = MIL (JAN) CWR19 | Reliability Grade<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 | Qualification Level<br>0 = N/A<br>T = T Level<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 |

Not RoHS Compliant



For RoHS compliant products, please select correct termination style.

#### CWR19 P/N CROSS REFERENCE:

| CWR19 | D                                                                                                     | ^                                                                                                       | 227                                                                                                                                      | *                                                        | @                                                                                                                                                             | H         | +                                                                                                                                             | □                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Type  | Voltage Code<br>C = 4Vdc<br>D = 6Vdc<br>F = 10Vdc<br>H = 15Vdc<br>J = 20Vdc<br>K = 25Vdc<br>M = 35Vdc | Termination Finish<br>H = Solder Plated<br>K = Solder Fused<br>C = Hot Solder Dipped<br>B = Gold Plated | 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% | Reliability Grade<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 | Case Size | 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 | Packaging<br>Bulk = Standard<br>TR = 7" T&R<br>TR13 = 13" T&R<br>W = Waffle<br><br>See page 6 for additional packaging options. |

Not RoHS Compliant

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

| TAZ  | H         | 227                                                                                                                                      | *                                                        | 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 | 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 6 for additional packaging options. | Inspection Level<br>L = Group A | Reliability Grade<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. | 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>45 = 10 cycles, -55°C & +85°C before Weibull |

Not RoHS Compliant

\*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:          | 0.33 $\mu$ F to 330 $\mu$ F                                                             |     |     |      |      |      |      |      |  |
| Capacitance Tolerance:      | ±5%; ±10%; ±20%                                                                         |     |     |      |      |      |      |      |  |
| Rated Voltage: ( $V_R$ )    | ≤85°C:                                                                                  | 4   | 6   | 10   | 15   | 20   | 25   | 35   |  |
| Category Voltage: ( $V_C$ ) | 125°C:                                                                                  | 2.7 | 4   | 6.7  | 10   | 13.3 | 16.7 | 23.3 |  |
| Surge Voltage: ( $V_S$ )    | ≤85°C:                                                                                  | 5.3 | 8   | 13.3 | 20   | 26.7 | 33.3 | 46.7 |  |
|                             | 125°C:                                                                                  | 3.5 | 5.3 | 8.7  | 13.3 | 17.8 | 22.2 | 31.1 |  |
| Temperature Range:          | -55°C to +125°C                                                                         |     |     |      |      |      |      |      |  |

# TAZ Series



## CWR19 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                                |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                     |                 |         |       |        |        |           |       | Typical Ripple Data by Rating |                |                |                 |                |                |                 |
|--------------------------------|--------------------------------|--------------------------------|------|----------------------------------------------------------|---------------------|-----------------|---------|-------|--------|--------|-----------|-------|-------------------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|
| CWR19 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N                | Case | Cap<br>@ 120Hz                                           | DC Rated<br>Voltage | ESR<br>@ 100kHz | DCL max |       |        | DF Max |           |       | Power<br>Dissipation          | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple |
|                                |                                |                                |      | μF<br>@ 25°C                                             | V<br>@ +85°C        | Ohms<br>@ +25°C | +25°C   | +85°C | +125°C | +25°C  | +85/125°C | -55°C | W                             | A<br>(100kHz)  | A<br>(100kHz)  | A<br>(100kHz)   | V<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   |
| CWR19C^335^@A+                 | TAZ A 335 * 004 C □ # @ 0 ^ ++ | TAZ A 335 * 004 C □ L @ 9 ^ ++ | A    | 3.3                                                      | 4                   | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19C^475^@A+                 | TAZ A 475 * 004 C □ # @ 0 ^ ++ | TAZ A 475 * 004 C □ L @ 9 ^ ++ | A    | 4.7                                                      | 4                   | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19C^685^@A+                 | TAZ A 685 * 004 C □ # @ 0 ^ ++ | TAZ A 685 * 004 C □ L @ 9 ^ ++ | A    | 6.8                                                      | 4                   | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19C^106^@B+                 | TAZ B 106 * 004 C □ # @ 0 ^ ++ | TAZ B 106 * 004 C □ L @ 9 ^ ++ | B    | 10                                                       | 4                   | 8               | 1       | 10    | 12     | 8      | 10        | 10    | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19C^156^@B+                 | TAZ B 156 * 004 C □ # @ 0 ^ ++ | TAZ B 156 * 004 C □ L @ 9 ^ ++ | B    | 15                                                       | 4                   | 8               | 1       | 10    | 12     | 8      | 10        | 10    | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19C^226^@B+                 | TAZ B 226 * 004 C □ # @ 0 ^ ++ | TAZ B 226 * 004 C □ L @ 9 ^ ++ | B    | 22                                                       | 4                   | 8               | 1       | 10    | 12     | 8      | 10        | 10    | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19C^226^@D+                 | TAZ D 226 * 004 C □ # @ 0 ^ ++ | TAZ D 226 * 004 C □ L @ 9 ^ ++ | D    | 22                                                       | 4                   | 4               | 1       | 10    | 12     | 8      | 10        | 12    | 0.080                         | 0.14           | 0.13           | 0.06            | 0.57           | 0.51           | 0.23            |
| CWR19C^336^@D+                 | TAZ D 336 * 004 C □ # @ 0 ^ ++ | TAZ D 336 * 004 C □ L @ 9 ^ ++ | D    | 33                                                       | 4                   | 4               | 2       | 20    | 24     | 8      | 10        | 12    | 0.080                         | 0.14           | 0.13           | 0.06            | 0.57           | 0.51           | 0.23            |
| CWR19C^336^@E+                 | TAZ E 336 * 004 C □ # @ 0 ^ ++ | TAZ E 336 * 004 C □ L @ 9 ^ ++ | E    | 33                                                       | 4                   | 3               | 2       | 20    | 24     | 8      | 10        | 12    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19C^476^@E+                 | TAZ E 476 * 004 C □ # @ 0 ^ ++ | TAZ E 476 * 004 C □ L @ 9 ^ ++ | E    | 47                                                       | 4                   | 3               | 2       | 20    | 24     | 8      | 10        | 12    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19C^686^@E+                 | TAZ E 686 * 004 C □ # @ 0 ^ ++ | TAZ E 686 * 004 C □ L @ 9 ^ ++ | E    | 68                                                       | 4                   | 3               | 3       | 30    | 36     | 8      | 10        | 12    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19C^107^@F+                 | TAZ F 107 * 004 C □ # @ 0 ^ ++ | TAZ F 107 * 004 C □ L @ 9 ^ ++ | F    | 100                                                      | 4                   | 2               | 4       | 40    | 48     | 10     | 12        | 12    | 0.100                         | 0.22           | 0.20           | 0.09            | 0.45           | 0.40           | 0.18            |
| CWR19C^157^@G+                 | TAZ G 157 * 004 C □ # @ 0 ^ ++ | TAZ G 157 * 004 C □ L @ 9 ^ ++ | G    | 150                                                      | 4                   | 1               | 6       | 60    | 72     | 10     | 12        | 12    | 0.125                         | 0.35           | 0.32           | 0.14            | 0.35           | 0.32           | 0.14            |
| CWR19C^227^@H+                 | TAZ H 227 * 004 C □ # @ 0 ^ ++ | TAZ H 227 * 004 C □ L @ 9 ^ ++ | H    | 220                                                      | 4                   | 1               | 8       | 80    | 96     | 10     | 12        | 12    | 0.150                         | 0.39           | 0.35           | 0.15            | 0.39           | 0.35           | 0.15            |
| CWR19C^337^@H+                 | TAZ H 337 * 004 C □ # @ 0 ^ ++ | TAZ H 337 * 004 C □ L @ 9 ^ ++ | H    | 330                                                      | 4                   | 0.9             | 10      | 100   | 120    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19D^335^@A+                 | TAZ A 335 * 006 C □ # @ 0 ^ ++ | TAZ A 335 * 006 C □ L @ 9 ^ ++ | A    | 3.3                                                      | 6                   | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19D^475^@A+                 | TAZ A 475 * 006 C □ # @ 0 ^ ++ | TAZ A 475 * 006 C □ L @ 9 ^ ++ | A    | 4.7                                                      | 6                   | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19D^685^@B+                 | TAZ B 685 * 006 C □ # @ 0 ^ ++ | TAZ B 685 * 006 C □ L @ 9 ^ ++ | B    | 6.8                                                      | 6                   | 8               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19D^106^@B+                 | TAZ B 106 * 006 C □ # @ 0 ^ ++ | TAZ B 106 * 006 C □ L @ 9 ^ ++ | B    | 10                                                       | 6                   | 8               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19D^156^@B+                 | TAZ B 156 * 006 C □ # @ 0 ^ ++ | TAZ B 156 * 006 C □ L @ 9 ^ ++ | B    | 15                                                       | 6                   | 8               | 1       | 10    | 12     | 8      | 10        | 10    | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19D^156^@D+                 | TAZ D 156 * 006 C □ # @ 0 ^ ++ | TAZ D 156 * 006 C □ L @ 9 ^ ++ | D    | 15                                                       | 6                   | 5               | 1       | 10    | 12     | 8      | 10        | 12    | 0.080                         | 0.13           | 0.11           | 0.05            | 0.63           | 0.57           | 0.25            |
| CWR19D^226^@D+                 | TAZ D 226 * 006 C □ # @ 0 ^ ++ | TAZ D 226 * 006 C □ L @ 9 ^ ++ | D    | 22                                                       | 6                   | 5               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.13           | 0.11           | 0.05            | 0.63           | 0.57           | 0.25            |
| CWR19D^156^@E+                 | TAZ E 156 * 006 C □ # @ 0 ^ ++ | TAZ E 156 * 006 C □ L @ 9 ^ ++ | E    | 15                                                       | 6                   | 3               | 1       | 10    | 12     | 8      | 10        | 12    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19D^226^@E+                 | TAZ E 226 * 006 C □ # @ 0 ^ ++ | TAZ E 226 * 006 C □ L @ 9 ^ ++ | E    | 22                                                       | 6                   | 3.5             | 2       | 20    | 24     | 8      | 10        | 12    | 0.090                         | 0.16           | 0.14           | 0.06            | 0.56           | 0.51           | 0.22            |
| CWR19D^336^@E+                 | TAZ E 336 * 006 C □ # @ 0 ^ ++ | TAZ E 336 * 006 C □ L @ 9 ^ ++ | E    | 33                                                       | 6                   | 3.5             | 2       | 20    | 24     | 6      | 8         | 8     | 0.090                         | 0.16           | 0.14           | 0.06            | 0.56           | 0.51           | 0.22            |
| CWR19D^476^@F+                 | TAZ F 476 * 006 C □ # @ 0 ^ ++ | TAZ F 476 * 006 C □ L @ 9 ^ ++ | F    | 47                                                       | 6                   | 3.5             | 3       | 30    | 36     | 8      | 10        | 12    | 0.100                         | 0.17           | 0.15           | 0.07            | 0.59           | 0.53           | 0.24            |
| CWR19D^686^@F+                 | TAZ F 686 * 006 C □ # @ 0 ^ ++ | TAZ F 686 * 006 C □ L @ 9 ^ ++ | F    | 68                                                       | 6                   | 1.5             | 4       | 40    | 48     | 10     | 12        | 12    | 0.100                         | 0.26           | 0.23           | 0.10            | 0.39           | 0.35           | 0.15            |
| CWR19D^686^@G+                 | TAZ G 686 * 006 C □ # @ 0 ^ ++ | TAZ G 686 * 006 C □ L @ 9 ^ ++ | G    | 68                                                       | 6                   | 1               | 4       | 40    | 48     | 10     | 12        | 12    | 0.125                         | 0.35           | 0.32           | 0.14            | 0.35           | 0.32           | 0.14            |
| CWR19D^107^@G+                 | TAZ G 107 * 006 C □ # @ 0 ^ ++ | TAZ G 107 * 006 C □ L @ 9 ^ ++ | G    | 100                                                      | 6                   | 1.1             | 6       | 60    | 72     | 10     | 12        | 12    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19D^157^@G+                 | TAZ G 157 * 006 C □ # @ 0 ^ ++ | TAZ G 157 * 006 C □ L @ 9 ^ ++ | G    | 150                                                      | 6                   | 1.1             | 10      | 100   | 120    | 10     | 12        | 12    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19D^227^@H+                 | TAZ H 227 * 006 C □ # @ 0 ^ ++ | TAZ H 227 * 006 C □ L @ 9 ^ ++ | H    | 220                                                      | 6                   | 0.9             | 10      | 100   | 120    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19D^337^@H+                 | TAZ H 337 * 006 C □ # @ 0 ^ ++ | TAZ H 337 * 006 C □ L @ 9 ^ ++ | H    | 330                                                      | 6                   | 0.9             | 20      | 200   | 240    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19F^225^@A+                 | TAZ A 225 * 010 C □ # @ 0 ^ ++ | TAZ A 225 * 010 C □ L @ 9 ^ ++ | A    | 2.2                                                      | 10                  | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19F^335^@A+                 | TAZ A 335 * 010 C □ # @ 0 ^ ++ | TAZ A 335 * 010 C □ L @ 9 ^ ++ | A    | 3.3                                                      | 10                  | 12              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.06           | 0.03            | 0.77           | 0.70           | 0.31            |
| CWR19F^475^@B+                 | TAZ B 475 * 010 C □ # @ 0 ^ ++ | TAZ B 475 * 010 C □ L @ 9 ^ ++ | B    | 4.7                                                      | 10                  | 8               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19F^685^@B+                 | TAZ B 685 * 010 C □ # @ 0 ^ ++ | TAZ B 685 * 010 C □ L @ 9 ^ ++ | B    | 6.8                                                      | 10                  | 8               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19F^106^@B+                 | TAZ B 106 * 010 C □ # @ 0 ^ ++ | TAZ B 106 * 010 C □ L @ 9 ^ ++ | B    | 10                                                       | 10                  | 8               | 1       | 10    | 12     | 8      | 10        | 10    | 0.070                         | 0.09           | 0.08           | 0.04            | 0.75           | 0.67           | 0.30            |
| CWR19F^475^@C+                 | TAZ C 475 * 010 C □ # @ 0 ^ ++ | TAZ C 475 * 010 C □ L @ 9 ^ ++ | C    | 4.7                                                      | 10                  | 5.5             | 1       | 10    | 12     | 6      | 8         | 8     | 0.075                         | 0.12           | 0.11           | 0.05            | 0.64           | 0.58           | 0.26            |
| CWR19F^685^@C+                 | TAZ C 685 * 010 C □ # @ 0 ^ ++ | TAZ C 685 * 010 C □ L @ 9 ^ ++ | C    | 6.8                                                      | 10                  | 5.5             | 1       | 10    | 12     | 6      | 8         | 8     | 0.075                         | 0.12           | 0.11           | 0.05            | 0.64           | 0.58           | 0.26            |
| CWR19F^106^@C+                 | TAZ C 106 * 010 C □ # @ 0 ^ ++ | TAZ C 106 * 010 C □ L @ 9 ^ ++ | C    | 10                                                       | 10                  | 5.5             | 1       | 10    | 12     | 6      | 8         | 8     | 0.075                         | 0.12           | 0.11           | 0.05            | 0.64           | 0.58           | 0.26            |
| CWR19F^685^@D+                 | TAZ D 685 * 010 C □ # @ 0 ^ ++ | TAZ D 685 * 010 C □ L @ 9 ^ ++ | D    | 6.8                                                      | 10                  | 5               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.13           | 0.11           | 0.05            | 0.63           | 0.57           | 0.25            |
| CWR19F^106^@D+                 | TAZ D 106 * 010 C □ # @ 0 ^ ++ | TAZ D 106 * 010 C □ L @ 9 ^ ++ | D    | 10                                                       | 10                  | 4               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.14           | 0.13           | 0.06            | 0.57           | 0.51           | 0.23            |
| CWR19F^156^@D+                 | TAZ D 156 * 010 C □ # @ 0 ^ ++ | TAZ D 156 * 010 C □ L @ 9 ^ ++ | D    | 15                                                       | 10                  | 5               | 2       | 20    | 24     | 6      | 8         | 8     | 0.080                         | 0.13           | 0.11           | 0.05            | 0.63           | 0.57           | 0.25            |
| CWR19F^106^@E+                 | TAZ E 106 * 010 C □ # @ 0 ^ ++ | TAZ E 106 * 010 C □ L @ 9 ^ ++ | E    | 10                                                       | 10                  | 3.5             | 1       | 10    | 12     | 6      | 8         | 8     | 0.090                         | 0.16           | 0.14           | 0.06            | 0.56           | 0.51           | 0.22            |
| CWR19F^156^@E+                 | TAZ E 156 * 010 C □ # @ 0 ^ ++ | TAZ E 156 * 010 C □ L @ 9 ^ ++ | E    | 15                                                       | 10                  | 3               | 2       | 20    | 24     | 8      | 10        | 10    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19F^226^@E+                 | TAZ E 226 * 010 C □ # @ 0 ^ ++ | TAZ E 226 * 010 C □ L @ 9 ^ ++ | E    | 22                                                       | 10                  | 2               | 3       | 30    | 36     | 8      | 10        | 10    | 0.090                         | 0.21           | 0.19           | 0.08            | 0.42           | 0.38           | 0.17            |
| CWR19F^336^@F+                 | TAZ F 336 * 010 C □ # @ 0 ^ ++ | TAZ F 336 * 010 C □ L @ 9 ^ ++ | F    | 33                                                       | 10                  | 1.5             | 3       | 30    | 36     | 8      | 10        | 10    | 0.100                         | 0.26           | 0.23           | 0.10            | 0.39           | 0.35           | 0.15            |
| CWR19F^476^@F+                 | TAZ F 476 * 010 C □ # @ 0 ^ ++ | TAZ F 476 * 010 C □ L @ 9 ^ ++ | F    | 47                                                       | 10                  | 1.5             | 4       | 40    | 48     | 10     | 12        | 12    | 0.100                         | 0.26           | 0.23           | 0.10            | 0.39           | 0.35           | 0.15            |
| CWR19F^476^@G+                 | TAZ G 476 * 010 C □ # @ 0 ^ ++ | TAZ G 476 * 010 C □ L @ 9 ^ ++ | G    | 47                                                       | 10                  | 1               | 4       | 40    | 48     | 10     | 12        | 12    | 0.125                         | 0.35           | 0.32           | 0.14            | 0.35           | 0.32           | 0.14            |
| CWR19F^686^@G+                 | TAZ G 686 * 010 C □ # @ 0 ^ ++ | TAZ G 686 * 010 C □ L @ 9 ^ ++ | G    | 68                                                       | 10                  | 1.1             | 6       | 60    | 72     | 10     | 12        | 12    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19F^107^@G+                 | TAZ G 107 * 010 C □ # @ 0 ^ ++ | TAZ G 107 * 010 C □ L @ 9 ^ ++ | G    | 100                                                      | 10                  | 1.1             | 10      | 100   | 120    | 10     | 12        | 12    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19F^107^@H+                 | TAZ H 107 * 010 C □ # @ 0 ^ ++ | TAZ H 107 * 010 C □ L @ 9 ^ ++ | H    | 100                                                      | 10                  | 0.9             | 10      | 100   | 120    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19F^157^@H+                 | TAZ H 157 * 010 C □ # @ 0 ^ ++ | TAZ H 157 * 010 C □ L @ 9 ^ ++ | H    | 150                                                      | 10                  | 0.9             | 15      | 150   | 180    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19F^227^@H+                 | TAZ H 227 * 010 C □ # @ 0 ^ ++ | TAZ H 227 * 010 C □ L @ 9 ^ ++ | H    | 220                                                      | 10                  | 0.9             | 20      | 200   | 240    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19F^157^@X+                 | TAZ X 157 * 010 C □ # @ 0 ^ ++ | TAZ X 157 * 010 C □ L @ 9 ^ ++ | X    | 150                                                      | 10                  | 0.9             | 15      | 150   | 180    | 10     | 12        | 12    | 0.200                         | 0.47           | 0.42           | 0.19            | 0.42           | 0.38           | 0.17            |

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.



# TAZ Series



## CWR19 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                                |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                     |                 |         |       |        |        |           |       | Typical Ripple Data by Rating |                |                |                 |                |                |                 |
|--------------------------------|--------------------------------|--------------------------------|------|----------------------------------------------------------|---------------------|-----------------|---------|-------|--------|--------|-----------|-------|-------------------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|
| CWR19 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N                | Case | Cap<br>@ 120Hz                                           | DC Rated<br>Voltage | ESR<br>@ 100kHz | DCL max |       |        | DF Max |           |       | Power<br>Dissipation          | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple |
|                                |                                |                                |      | μF<br>@ 25°C                                             | V<br>@ +85°C        | Ohms<br>@ +25°C | +25°C   | +85°C | +125°C | +25°C  | +85/125°C | -55°C | W                             | A<br>(100kHz)  | A<br>(100kHz)  | A<br>(100kHz)   | V<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   |
| CWR19H105*0A+□                 | TAZ A 105 * 015 C □ # @ 0 ^ ++ | TAZ A 105 * 015 C □ L @ 9 ^ ++ | A    | 1                                                        | 15                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19H155*0A+□                 | TAZ A 155 * 015 C □ # @ 0 ^ ++ | TAZ A 155 * 015 C □ L @ 9 ^ ++ | A    | 1.5                                                      | 15                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19H225*0A+□                 | TAZ A 225 * 015 C □ # @ 0 ^ ++ | TAZ A 225 * 015 C □ L @ 9 ^ ++ | A    | 2.2                                                      | 15                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19H335*0B+□                 | TAZ B 335 * 015 C □ # @ 0 ^ ++ | TAZ B 335 * 015 C □ L @ 9 ^ ++ | B    | 3.3                                                      | 15                  | 9               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.79           | 0.71           | 0.32            |
| CWR19H475*0B+□                 | TAZ B 475 * 015 C □ # @ 0 ^ ++ | TAZ B 475 * 015 C □ L @ 9 ^ ++ | B    | 4.7                                                      | 15                  | 5               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.12           | 0.11           | 0.05            | 0.59           | 0.53           | 0.24            |
| CWR19H475*0C+□                 | TAZ C 475 * 015 C □ # @ 0 ^ ++ | TAZ C 475 * 015 C □ L @ 9 ^ ++ | C    | 4.7                                                      | 15                  | 5.5             | 1       | 10    | 12     | 6      | 8         | 8     | 0.075                         | 0.12           | 0.11           | 0.05            | 0.64           | 0.58           | 0.26            |
| CWR19H475*0D+□                 | TAZ D 475 * 015 C □ # @ 0 ^ ++ | TAZ D 475 * 015 C □ L @ 9 ^ ++ | D    | 4.7                                                      | 15                  | 6               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.12           | 0.10           | 0.05            | 0.69           | 0.62           | 0.28            |
| CWR19H685*0D+□                 | TAZ D 685 * 015 C □ # @ 0 ^ ++ | TAZ D 685 * 015 C □ L @ 9 ^ ++ | D    | 6.8                                                      | 15                  | 6               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.12           | 0.10           | 0.05            | 0.69           | 0.62           | 0.28            |
| CWR19H106*0D+□                 | TAZ D 106 * 015 C □ # @ 0 ^ ++ | TAZ D 106 * 015 C □ L @ 9 ^ ++ | D    | 10                                                       | 15                  | 6               | 2       | 20    | 24     | 6      | 8         | 8     | 0.080                         | 0.12           | 0.10           | 0.05            | 0.69           | 0.62           | 0.28            |
| CWR19H685*0E+□                 | TAZ E 685 * 015 C □ # @ 0 ^ ++ | TAZ E 685 * 015 C □ L @ 9 ^ ++ | E    | 6.8                                                      | 15                  | 3               | 1       | 10    | 12     | 8      | 10        | 12    | 0.090                         | 0.17           | 0.16           | 0.07            | 0.52           | 0.47           | 0.21            |
| CWR19H106*0E+□                 | TAZ E 106 * 015 C □ # @ 0 ^ ++ | TAZ E 106 * 015 C □ L @ 9 ^ ++ | E    | 10                                                       | 15                  | 4               | 2       | 20    | 24     | 6      | 8         | 8     | 0.090                         | 0.15           | 0.14           | 0.06            | 0.60           | 0.54           | 0.24            |
| CWR19H156*0E+□                 | TAZ E 156 * 015 C □ # @ 0 ^ ++ | TAZ E 156 * 015 C □ L @ 9 ^ ++ | E    | 15                                                       | 15                  | 4               | 2       | 20    | 24     | 6      | 8         | 8     | 0.090                         | 0.15           | 0.14           | 0.06            | 0.60           | 0.54           | 0.24            |
| CWR19H156*0F+□                 | TAZ F 156 * 015 C □ # @ 0 ^ ++ | TAZ F 156 * 015 C □ L @ 9 ^ ++ | F    | 15                                                       | 15                  | 3               | 2       | 20    | 24     | 8      | 10        | 10    | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19H226*0F+□                 | TAZ F 226 * 015 C □ # @ 0 ^ ++ | TAZ F 226 * 015 C □ L @ 9 ^ ++ | F    | 22                                                       | 15                  | 3               | 3       | 30    | 36     | 8      | 10        | 10    | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19H336*0F+□                 | TAZ F 336 * 015 C □ # @ 0 ^ ++ | TAZ F 336 * 015 C □ L @ 9 ^ ++ | F    | 33                                                       | 15                  | 3               | 5       | 50    | 60     | 6      | 8         | 8     | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19H336*0G+□                 | TAZ G 336 * 015 C □ # @ 0 ^ ++ | TAZ G 336 * 015 C □ L @ 9 ^ ++ | G    | 33                                                       | 15                  | 1.1             | 6       | 60    | 72     | 8      | 10        | 10    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19H476*0G+□                 | TAZ G 476 * 015 C □ # @ 0 ^ ++ | TAZ G 476 * 015 C □ L @ 9 ^ ++ | G    | 47                                                       | 15                  | 1.1             | 10      | 100   | 120    | 8      | 10        | 10    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19H686*0G+□                 | TAZ G 686 * 015 C □ # @ 0 ^ ++ | TAZ G 686 * 015 C □ L @ 9 ^ ++ | G    | 68                                                       | 15                  | 1.1             | 10      | 100   | 120    | 8      | 10        | 10    | 0.125                         | 0.34           | 0.30           | 0.13            | 0.37           | 0.33           | 0.15            |
| CWR19H476*0H+□                 | TAZ H 476 * 015 C □ # @ 0 ^ ++ | TAZ H 476 * 015 C □ L @ 9 ^ ++ | H    | 47                                                       | 15                  | 0.9             | 10      | 100   | 120    | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19H686*0H+□                 | TAZ H 686 * 015 C □ # @ 0 ^ ++ | TAZ H 686 * 015 C □ L @ 9 ^ ++ | H    | 68                                                       | 15                  | 0.9             | 10      | 100   | 120    | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19H107*0H+□                 | TAZ H 107 * 015 C □ # @ 0 ^ ++ | TAZ H 107 * 015 C □ L @ 9 ^ ++ | H    | 100                                                      | 15                  | 0.9             | 15      | 150   | 180    | 10     | 12        | 12    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19J684*0A+□                 | TAZ A 684 * 020 C □ # @ 0 ^ ++ | TAZ A 684 * 020 C □ L @ 9 ^ ++ | A    | 0.68                                                     | 20                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19J105*0A+□                 | TAZ A 105 * 020 C □ # @ 0 ^ ++ | TAZ A 105 * 020 C □ L @ 9 ^ ++ | A    | 1                                                        | 20                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19J155*0B+□                 | TAZ B 155 * 020 C □ # @ 0 ^ ++ | TAZ B 155 * 020 C □ L @ 9 ^ ++ | B    | 1.5                                                      | 20                  | 9               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.79           | 0.71           | 0.32            |
| CWR19J225*0B+□                 | TAZ B 225 * 020 C □ # @ 0 ^ ++ | TAZ B 225 * 020 C □ L @ 9 ^ ++ | B    | 2.2                                                      | 20                  | 9               | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.09           | 0.08           | 0.04            | 0.79           | 0.71           | 0.32            |
| CWR19J335*0D+□                 | TAZ D 335 * 020 C □ # @ 0 ^ ++ | TAZ D 335 * 020 C □ L @ 9 ^ ++ | D    | 3.3                                                      | 20                  | 6               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.12           | 0.10           | 0.05            | 0.69           | 0.62           | 0.28            |
| CWR19J475*0E+□                 | TAZ E 475 * 020 C □ # @ 0 ^ ++ | TAZ E 475 * 020 C □ L @ 9 ^ ++ | E    | 4.7                                                      | 20                  | 6               | 1       | 10    | 12     | 6      | 8         | 8     | 0.090                         | 0.12           | 0.11           | 0.05            | 0.73           | 0.66           | 0.29            |
| CWR19J685*0E+□                 | TAZ E 685 * 020 C □ # @ 0 ^ ++ | TAZ E 685 * 020 C □ L @ 9 ^ ++ | E    | 6.8                                                      | 20                  | 5               | 2       | 20    | 24     | 6      | 8         | 8     | 0.090                         | 0.13           | 0.12           | 0.05            | 0.67           | 0.60           | 0.27            |
| CWR19J106*0E+□                 | TAZ E 106 * 020 C □ # @ 0 ^ ++ | TAZ E 106 * 020 C □ L @ 9 ^ ++ | E    | 10                                                       | 20                  | 5               | 2       | 20    | 24     | 6      | 8         | 8     | 0.090                         | 0.13           | 0.12           | 0.05            | 0.67           | 0.60           | 0.27            |
| CWR19J106*0F+□                 | TAZ F 106 * 020 C □ # @ 0 ^ ++ | TAZ F 106 * 020 C □ L @ 9 ^ ++ | F    | 10                                                       | 20                  | 3               | 2       | 20    | 24     | 6      | 8         | 8     | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19J156*0F+□                 | TAZ F 156 * 020 C □ # @ 0 ^ ++ | TAZ F 156 * 020 C □ L @ 9 ^ ++ | F    | 15                                                       | 20                  | 3               | 3       | 30    | 36     | 6      | 8         | 8     | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19J226*0G+□                 | TAZ G 226 * 020 C □ # @ 0 ^ ++ | TAZ G 226 * 020 C □ L @ 9 ^ ++ | G    | 22                                                       | 20                  | 2.5             | 4       | 40    | 48     | 6      | 8         | 8     | 0.125                         | 0.22           | 0.20           | 0.09            | 0.56           | 0.50           | 0.22            |
| CWR19J336*0H+□                 | TAZ H 336 * 020 C □ # @ 0 ^ ++ | TAZ H 336 * 020 C □ L @ 9 ^ ++ | H    | 33                                                       | 20                  | 0.9             | 6       | 60    | 72     | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19J476*0H+□                 | TAZ H 476 * 020 C □ # @ 0 ^ ++ | TAZ H 476 * 020 C □ L @ 9 ^ ++ | H    | 47                                                       | 20                  | 0.9             | 10      | 100   | 120    | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19J476*0X+□                 | TAZ X 476 * 020 C □ # @ 0 ^ ++ | TAZ X 476 * 020 C □ L @ 9 ^ ++ | X    | 47                                                       | 20                  | 0.9             | 10      | 100   | 120    | 8      | 10        | 10    | 0.200                         | 0.47           | 0.42           | 0.19            | 0.42           | 0.38           | 0.17            |
| CWR19K474*0A+□                 | TAZ A 474 * 025 C □ # @ 0 ^ ++ | TAZ A 474 * 025 C □ L @ 9 ^ ++ | A    | 0.47                                                     | 25                  | 15              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.06           | 0.05           | 0.02            | 0.87           | 0.78           | 0.35            |
| CWR19K105*0B+□                 | TAZ B 105 * 025 C □ # @ 0 ^ ++ | TAZ B 105 * 025 C □ L @ 9 ^ ++ | B    | 1                                                        | 25                  | 10              | 1       | 10    | 12     | 6      | 8         | 8     | 0.070                         | 0.08           | 0.08           | 0.03            | 0.84           | 0.75           | 0.33            |
| CWR19K225*0D+□                 | TAZ D 225 * 025 C □ # @ 0 ^ ++ | TAZ D 225 * 025 C □ L @ 9 ^ ++ | D    | 2.2                                                      | 25                  | 6               | 1       | 10    | 12     | 6      | 8         | 8     | 0.080                         | 0.12           | 0.10           | 0.05            | 0.69           | 0.62           | 0.28            |
| CWR19K335*0E+□                 | TAZ E 335 * 025 C □ # @ 0 ^ ++ | TAZ E 335 * 025 C □ L @ 9 ^ ++ | E    | 3.3                                                      | 25                  | 4               | 1       | 10    | 12     | 6      | 8         | 8     | 0.090                         | 0.15           | 0.14           | 0.06            | 0.60           | 0.54           | 0.24            |
| CWR19K685*0F+□                 | TAZ F 685 * 025 C □ # @ 0 ^ ++ | TAZ F 685 * 025 C □ L @ 9 ^ ++ | F    | 6.8                                                      | 25                  | 3               | 2       | 20    | 24     | 6      | 8         | 8     | 0.100                         | 0.18           | 0.16           | 0.07            | 0.55           | 0.49           | 0.22            |
| CWR19K156*0G+□                 | TAZ G 156 * 025 C □ # @ 0 ^ ++ | TAZ G 156 * 025 C □ L @ 9 ^ ++ | G    | 15                                                       | 25                  | 1.4             | 4       | 40    | 48     | 6      | 8         | 8     | 0.125                         | 0.30           | 0.27           | 0.12            | 0.42           | 0.38           | 0.17            |
| CWR19K226*0G+□                 | TAZ G 226 * 025 C □ # @ 0 ^ ++ | TAZ G 226 * 025 C □ L @ 9 ^ ++ | G    | 22                                                       | 25                  | 1.4             | 6       | 60    | 72     | 6      | 8         | 8     | 0.125                         | 0.30           | 0.27           | 0.12            | 0.42           | 0.38           | 0.17            |
| CWR19K226*0H+□                 | TAZ H 226 * 025 C □ # @ 0 ^ ++ | TAZ H 226 * 025 C □ L @ 9 ^ ++ | H    | 22                                                       | 25                  | 0.9             | 6       | 60    | 72     | 6      | 8         | 8     | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19K336*0H+□                 | TAZ H 336 * 025 C □ # @ 0 ^ ++ | TAZ H 336 * 025 C □ L @ 9 ^ ++ | H    | 33                                                       | 25                  | 0.9             | 10      | 100   | 120    | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |
| CWR19M334*0A+□                 | TAZ A 334 * 035 C □ # @ 0 ^ ++ | TAZ A 334 * 035 C □ L @ 9 ^ ++ | A    | 0.33                                                     | 35                  | 22              | 1       | 10    | 12     | 6      | 8         | 8     | 0.050                         | 0.05           | 0.04           | 0.02            | 1.05           | 0.94           | 0.42            |
| CWR19M685*0G+□                 | TAZ G 685 * 035 C □ # @ 0 ^ ++ | TAZ G 685 * 035 C □ L @ 9 ^ ++ | G    | 6.8                                                      | 35                  | 1.5             | 3       | 30    | 36     | 6      | 8         | 8     | 0.125                         | 0.29           | 0.26           | 0.12            | 0.43           | 0.39           | 0.17            |
| CWR19M106*0H+□                 | TAZ H 106 * 035 C □ # @ 0 ^ ++ | TAZ H 106 * 035 C □ L @ 9 ^ ++ | H    | 10                                                       | 35                  | 0.9             | 4       | 40    | 48     | 8      | 10        | 10    | 0.150                         | 0.41           | 0.37           | 0.16            | 0.37           | 0.33           | 0.15            |

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.



# TAZ Series



## CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level



### MARKING

(White marking on black body)



**Polarity Stripe (+)**

**Capacitance Code  
Rated Voltage**

A low ESR version of CWR09 and CWR19 that is fully qualified to MIL-PRF-55365/11, the CWR29 series represents the most flexible of surface mount form factors and the optimum power handling for all filtering applications. It is offered in nine case sizes (the original A through H of CWR09 and adding the new X case size).

The molded body / compliant termination construction ensures 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 parts also carry full polarity and capacitance / voltage marking.

The five smaller cases are characterized by their low profile construction, with the A case being the world's smallest molded military tantalum chip.

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 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 are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365). In addition, the molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.

The TAZ "X" case size components are considered to be MSL 3 in accordance with J-STD-020.

### CASE DIMENSIONS:

millimeters (inches)

| Case Code | Length (L)<br>±0.38 (0.015) | Width (W)<br>±0.38 (0.015) | Height (H)<br>±0.38 (0.015) | Term. Width (W <sub>t</sub> )           | Term. Length (A)<br>+0.25/-0.13<br>(+0.010/-0.005) | S min        | Typical Weight (g) |
|-----------|-----------------------------|----------------------------|-----------------------------|-----------------------------------------|----------------------------------------------------|--------------|--------------------|
| A         | 2.54 (0.100)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 0.38 (0.015) | 0.016              |
| B         | 3.81 (0.150)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 1.65 (0.065) | 0.025              |
| C         | 5.08 (0.200)                | 1.27 (0.050)               | 1.27 (0.050)                | 1.27±0.13<br>(0.050±0.005)              | 0.76 (0.030)                                       | 2.92 (0.115) | 0.035              |
| D         | 3.81 (0.150)                | 2.54 (0.100)               | 1.27 (0.050)                | 2.41±0.13/-0.25<br>(0.095±0.005/-0.010) | 0.76 (0.030)                                       | 1.65 (0.065) | 0.045              |
| E         | 5.08 (0.200)                | 2.54 (0.100)               | 1.27 (0.050)                | 2.41±0.13/-0.25<br>(0.095±0.005/-0.010) | 0.76 (0.030)                                       | 2.92 (0.115) | 0.065              |
| F         | 5.59 (0.220)                | 3.43 (0.135)               | 1.78 (0.070)                | 3.30±0.13<br>(0.130±0.005)              | 0.76 (0.030)                                       | 3.43 (0.135) | 0.125              |
| G         | 6.73 (0.265)                | 2.79 (0.110)               | 2.79 (0.110)                | 2.67±0.13<br>(0.105±0.005)              | 1.27 (0.050)                                       | 3.56 (0.140) | 0.205              |
| H         | 7.24 (0.285)                | 3.81 (0.150)               | 2.79 (0.110)                | 3.68±0.13/-0.51<br>(0.145±0.005/-0.020) | 1.27 (0.050)                                       | 4.06 (0.160) | 0.035              |
| X         | 6.93 Max<br>(0.273)         | 5.41 Max<br>(0.213)        | 2.74 Max<br>(0.108)         | 3.05±0.13<br>(0.120±0.005)              | 1.19 (0.047)                                       | N/A          | 0.420              |

### CWR29-MIL-PRF 55365/11

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (VOLTAGE CODE) RANGE (LETTER DENOTES 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       |
| 0.15        | 154  |                                            |        |         |         |         |         |         | A       |
| 0.22        | 224  |                                            |        |         |         |         |         |         | B       |
| 0.33        | 334  |                                            |        |         |         |         | A       | A       | B       |
| 0.47        | 474  |                                            |        |         |         | A       | A       | B       | C       |
| 0.68        | 684  |                                            |        |         | A       | A/B     | B       | C       | D       |
| 1.0         | 105  |                                            |        | A       | A       | A/B     | B/C     | D       | E       |
| 1.5         | 155  |                                            | A      | A/B     | A/B     | B/C     | D       | E       | F       |
| 2.2         | 225  | A                                          |        | A/B     | A/C     | B/D     | D/E     |         | F       |
| 3.3         | 335  | A                                          | A/B    | A/C     | B/D     | D/E     | E       | F       | G       |
| 4.7         | 475  | A/B                                        | A/C    | B/C/D   | B/C/D/E | E       | F       | G       | H       |
| 6.8         | 685  | A/C                                        | B/D    | B/C/D/E | D/E     | E/F     | F/G     | G/H     |         |
| 10          | 106  | B/D                                        | B/E    | B/C/D/E | D/E/F   | E/F     | G       | H       |         |
| 15          | 156  | B/E                                        | B/D/E  | D/E/F   | E/F     | F/G     | G/H     |         |         |
| 22          | 226  | B/D                                        | D/E/F  | E       | F/G     | G/H     | G/H     |         |         |
| 33          | 336  | D/E/F                                      | E      | F/G     | F/G/H   | H       | H       |         |         |
| 47          | 476  | E                                          | F/G    | F/G/H   | G/H     | H/X     |         |         |         |
| 68          | 686  | E/G                                        | F/G/H  | G       | G/H     |         |         |         |         |
| 100         | 107  | F/H                                        | G      | G/H     | H       |         |         |         |         |
| 150         | 157  | G                                          | G      | H/X     |         |         |         |         |         |
| 220         | 227  | H                                          | H      | H       |         |         |         |         |         |
| 330         | 337  | H                                          | H      |         |         |         |         |         |         |



### HOW TO ORDER

#### COTS-PLUS & MIL QPL (CWR29):

| TAZ  | H         | 227                                                                                                                                      | *                                                        | 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 6 for additional packaging options. | Inspection Level<br>S = Std. Conformance<br>L = Group A<br><br>M = MIL (JAN) CWR29 | Reliability Grade<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 | Qualification Level<br>0 = N/A<br>T = T Level<br><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 |

Not RoHS Compliant



#### CWR29 P/N CROSS REFERENCE:

| CWR29 | D                                                                                                                  | ^                                                                                                       | 227                                                                                                                                      | *                                                        | @                                                                                                                                                             | H         | +                                                                                                                                             | □                                                                                                                               |
|-------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Type  | Voltage Code<br>C = 4Vdc<br>D = 6Vdc<br>F = 10Vdc<br>H = 15Vdc<br>J = 20Vdc<br>K = 25Vdc<br>M = 35Vdc<br>N = 50Vdc | Termination Finish<br>H = Solder Plated<br>K = Solder Fused<br>C = Hot Solder Dipped<br>B = Gold Plated | 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% | Reliability Grade<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 | Case Size | 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 | Packaging<br>Bulk = Standard<br>TR = 7" T&R<br>TR13 = 13" T&R<br>W = Waffle<br><br>See page 6 for additional packaging options. |

Not RoHS Compliant

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

| TAZ  | H         | 227                                                                                                                                      | *                                                        | 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 6 for additional packaging options. | Inspection Level<br>L = Group A | Reliability Grade<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. | 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>45 = 10 cycles, -55°C & +85°C before Weibull |

Not RoHS Compliant

\*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 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 |  |
|                                     | 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                                                                         |     |     |      |      |      |      |      |      |  |

# TAZ Series



## CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                                |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                     |                 |         |       |        |       |             |                      | Typical Ripple Data by Rating |                |                 |                |                |                 |               |
|--------------------------------|--------------------------------|--------------------------------|------|----------------------------------------------------------|---------------------|-----------------|---------|-------|--------|-------|-------------|----------------------|-------------------------------|----------------|-----------------|----------------|----------------|-----------------|---------------|
|                                |                                |                                |      | Cap<br>@ 120Hz                                           | DC Rated<br>Voltage | ESR<br>@ 100kHz | DCL max |       | DF Max |       |             | Power<br>Dissipation | 25°C<br>Ripple                | 85°C<br>Ripple | 125°C<br>Ripple | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple |               |
|                                |                                |                                |      | μF<br>@ 25°C                                             | V<br>@ +85°C        | Ohms<br>@ +25°C | +25°C   | +85°C | +125°C | +25°C | +(85/125)°C |                      | -55°C                         | A<br>(100kHz)  | A<br>(100kHz)   | A<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   | V<br>(100kHz) |
| CWR29 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N                | Case |                                                          |                     |                 | (μA)    | (μA)  | (μA)   | (%)   | (%)         | (%)                  | W                             | A<br>(100kHz)  | A<br>(100kHz)   | A<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   | V<br>(100kHz) |
| CWR29C^225^@A+□                | TAZ A 225 * 004 L □ # @ 0 ^ ++ | TAZ A 225 * 004 L □ L @ 9 ^ ++ | A    | 2.2                                                      | 4                   | 4               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.11           | 0.10            | 0.04           | 0.45           | 0.40            | 0.18          |
| CWR29C^335^@A+□                | TAZ A 335 * 004 L □ # @ 0 ^ ++ | TAZ A 335 * 004 L □ L @ 9 ^ ++ | A    | 3.3                                                      | 4                   | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29C^475^@A+□                | TAZ A 475 * 004 L □ # @ 0 ^ ++ | TAZ A 475 * 004 L □ L @ 9 ^ ++ | A    | 4.7                                                      | 4                   | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29C^475^@B+□                | TAZ B 475 * 004 L □ # @ 0 ^ ++ | TAZ B 475 * 004 L □ L @ 9 ^ ++ | B    | 4.7                                                      | 4                   | 3.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29C^685^@A+□                | TAZ A 685 * 004 L □ # @ 0 ^ ++ | TAZ A 685 * 004 L □ L @ 9 ^ ++ | A    | 6.8                                                      | 4                   | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29C^685^@C+□                | TAZ C 685 * 004 L □ # @ 0 ^ ++ | TAZ C 685 * 004 L □ L @ 9 ^ ++ | C    | 6.8                                                      | 4                   | 2.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.075                         | 0.18           | 0.17            | 0.07           | 0.41           | 0.37            | 0.16          |
| CWR29C^106^@B+□                | TAZ B 106 * 004 L □ # @ 0 ^ ++ | TAZ B 106 * 004 L □ L @ 9 ^ ++ | B    | 10                                                       | 4                   | 3.2             | 1       | 10    | 12     | 8     | 10          | 10                   | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29C^106^@D+□                | TAZ D 106 * 004 L □ # @ 0 ^ ++ | TAZ D 106 * 004 L □ L @ 9 ^ ++ | D    | 10                                                       | 4                   | 1.3             | 1       | 10    | 12     | 8     | 8           | 10                   | 0.080                         | 0.25           | 0.22            | 0.10           | 0.32           | 0.29            | 0.13          |
| CWR29C^156^@B+□                | TAZ B 156 * 004 L □ # @ 0 ^ ++ | TAZ B 156 * 004 L □ L @ 9 ^ ++ | B    | 15                                                       | 4                   | 3.2             | 1       | 10    | 12     | 8     | 10          | 10                   | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29C^156^@E+□                | TAZ E 156 * 004 L □ # @ 0 ^ ++ | TAZ E 156 * 004 L □ L @ 9 ^ ++ | E    | 15                                                       | 4                   | 1               | 1       | 10    | 12     | 8     | 10          | 12                   | 0.090                         | 0.30           | 0.27            | 0.12           | 0.30           | 0.27            | 0.12          |
| CWR29C^226^@B+□                | TAZ B 226 * 004 L □ # @ 0 ^ ++ | TAZ B 226 * 004 L □ L @ 9 ^ ++ | B    | 22                                                       | 4                   | 3.2             | 1       | 10    | 12     | 8     | 10          | 10                   | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29C^226^@D+□                | TAZ D 226 * 004 L □ # @ 0 ^ ++ | TAZ D 226 * 004 L □ L @ 9 ^ ++ | D    | 22                                                       | 4                   | 1.3             | 1       | 10    | 12     | 8     | 10          | 12                   | 0.080                         | 0.25           | 0.22            | 0.10           | 0.32           | 0.29            | 0.13          |
| CWR29C^336^@D+□                | TAZ D 336 * 004 L □ # @ 0 ^ ++ | TAZ D 336 * 004 L □ L @ 9 ^ ++ | D    | 33                                                       | 4                   | 1.3             | 2       | 20    | 24     | 8     | 10          | 12                   | 0.080                         | 0.25           | 0.22            | 0.10           | 0.32           | 0.29            | 0.13          |
| CWR29C^336^@E+□                | TAZ E 336 * 004 L □ # @ 0 ^ ++ | TAZ E 336 * 004 L □ L @ 9 ^ ++ | E    | 33                                                       | 4                   | 0.9             | 2       | 20    | 24     | 8     | 10          | 12                   | 0.090                         | 0.32           | 0.28            | 0.13           | 0.28           | 0.26            | 0.11          |
| CWR29C^336^@F+□                | TAZ F 336 * 004 L □ # @ 0 ^ ++ | TAZ F 336 * 004 L □ L @ 9 ^ ++ | F    | 33                                                       | 4                   | 0.6             | 2       | 20    | 24     | 8     | 10          | 12                   | 0.100                         | 0.41           | 0.37            | 0.16           | 0.24           | 0.22            | 0.10          |
| CWR29C^476^@E+□                | TAZ E 476 * 004 L □ # @ 0 ^ ++ | TAZ E 476 * 004 L □ L @ 9 ^ ++ | E    | 47                                                       | 4                   | 0.9             | 2       | 20    | 24     | 8     | 10          | 12                   | 0.090                         | 0.32           | 0.28            | 0.13           | 0.28           | 0.26            | 0.11          |
| CWR29C^686^@E+□                | TAZ E 686 * 004 L □ # @ 0 ^ ++ | TAZ E 686 * 004 L □ L @ 9 ^ ++ | E    | 68                                                       | 4                   | 0.9             | 3       | 30    | 36     | 8     | 10          | 12                   | 0.090                         | 0.32           | 0.28            | 0.13           | 0.28           | 0.26            | 0.11          |
| CWR29C^686^@G+□                | TAZ G 686 * 004 L □ # @ 0 ^ ++ | TAZ G 686 * 004 L □ L @ 9 ^ ++ | G    | 68                                                       | 4                   | 0.275           | 3       | 30    | 36     | 10    | 12          | 12                   | 0.125                         | 0.67           | 0.61            | 0.27           | 0.19           | 0.17            | 0.07          |
| CWR29C^107^@F+□                | TAZ F 107 * 004 L □ # @ 0 ^ ++ | TAZ F 107 * 004 L □ L @ 9 ^ ++ | F    | 100                                                      | 4                   | 0.55            | 4       | 40    | 48     | 10    | 12          | 12                   | 0.100                         | 0.43           | 0.38            | 0.17           | 0.23           | 0.21            | 0.09          |
| CWR29C^107^@H+□                | TAZ H 107 * 004 L □ # @ 0 ^ ++ | TAZ H 107 * 004 L □ L @ 9 ^ ++ | H    | 100                                                      | 4                   | 0.18            | 4       | 40    | 48     | 10    | 12          | 12                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29C^157^@G+□                | TAZ G 157 * 004 L □ # @ 0 ^ ++ | TAZ G 157 * 004 L □ L @ 9 ^ ++ | G    | 150                                                      | 4                   | 0.25            | 6       | 60    | 72     | 10    | 12          | 12                   | 0.125                         | 0.71           | 0.64            | 0.28           | 0.18           | 0.16            | 0.07          |
| CWR29C^227^@H+□                | TAZ H 227 * 004 L □ # @ 0 ^ ++ | TAZ H 227 * 004 L □ L @ 9 ^ ++ | H    | 220                                                      | 4                   | 0.2             | 8       | 80    | 96     | 10    | 12          | 12                   | 0.150                         | 0.87           | 0.78            | 0.35           | 0.17           | 0.16            | 0.07          |
| CWR29C^337^@H+□                | TAZ H 337 * 004 L □ # @ 0 ^ ++ | TAZ H 337 * 004 L □ L @ 9 ^ ++ | H    | 330                                                      | 4                   | 0.18            | 10      | 100   | 120    | 10    | 12          | 12                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29D^155^@A+□                | TAZ A 155 * 006 L □ # @ 0 ^ ++ | TAZ A 155 * 006 L □ L @ 9 ^ ++ | A    | 1.5                                                      | 6                   | 4               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.11           | 0.10            | 0.04           | 0.45           | 0.40            | 0.18          |
| CWR29D^335^@A+□                | TAZ A 335 * 006 L □ # @ 0 ^ ++ | TAZ A 335 * 006 L □ L @ 9 ^ ++ | A    | 3.3                                                      | 6                   | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29D^335^@B+□                | TAZ B 335 * 006 L □ # @ 0 ^ ++ | TAZ B 335 * 006 L □ L @ 9 ^ ++ | B    | 3.3                                                      | 6                   | 3.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29D^475^@A+□                | TAZ A 475 * 006 L □ # @ 0 ^ ++ | TAZ A 475 * 006 L □ L @ 9 ^ ++ | A    | 4.7                                                      | 6                   | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29D^475^@C+□                | TAZ C 475 * 006 L □ # @ 0 ^ ++ | TAZ C 475 * 006 L □ L @ 9 ^ ++ | C    | 4.7                                                      | 6                   | 2.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.075                         | 0.18           | 0.17            | 0.07           | 0.41           | 0.37            | 0.16          |
| CWR29D^685^@B+□                | TAZ B 685 * 006 L □ # @ 0 ^ ++ | TAZ B 685 * 006 L □ L @ 9 ^ ++ | B    | 6.8                                                      | 6                   | 3.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29D^685^@D+□                | TAZ D 685 * 006 L □ # @ 0 ^ ++ | TAZ D 685 * 006 L □ L @ 9 ^ ++ | D    | 6.8                                                      | 6                   | 1.5             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.23           | 0.21            | 0.09           | 0.35           | 0.31            | 0.14          |
| CWR29D^106^@B+□                | TAZ B 106 * 006 L □ # @ 0 ^ ++ | TAZ B 106 * 006 L □ L @ 9 ^ ++ | B    | 10                                                       | 6                   | 3.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29D^106^@E+□                | TAZ E 106 * 006 L □ # @ 0 ^ ++ | TAZ E 106 * 006 L □ L @ 9 ^ ++ | E    | 10                                                       | 6                   | 1               | 1       | 10    | 12     | 8     | 10          | 12                   | 0.090                         | 0.30           | 0.27            | 0.12           | 0.30           | 0.27            | 0.12          |
| CWR29D^156^@B+□                | TAZ B 156 * 006 L □ # @ 0 ^ ++ | TAZ B 156 * 006 L □ L @ 9 ^ ++ | B    | 15                                                       | 6                   | 3.2             | 1       | 10    | 12     | 8     | 10          | 10                   | 0.070                         | 0.15           | 0.13            | 0.06           | 0.47           | 0.43            | 0.19          |
| CWR29D^156^@D+□                | TAZ D 156 * 006 L □ # @ 0 ^ ++ | TAZ D 156 * 006 L □ L @ 9 ^ ++ | D    | 15                                                       | 6                   | 1.7             | 1       | 10    | 12     | 8     | 10          | 12                   | 0.080                         | 0.22           | 0.20            | 0.09           | 0.37           | 0.33            | 0.15          |
| CWR29D^156^@E+□                | TAZ E 156 * 006 L □ # @ 0 ^ ++ | TAZ E 156 * 006 L □ L @ 9 ^ ++ | E    | 15                                                       | 6                   | 0.9             | 1       | 10    | 12     | 8     | 10          | 12                   | 0.090                         | 0.32           | 0.28            | 0.13           | 0.28           | 0.26            | 0.11          |
| CWR29D^226^@D+□                | TAZ D 226 * 006 L □ # @ 0 ^ ++ | TAZ D 226 * 006 L □ L @ 9 ^ ++ | D    | 22                                                       | 6                   | 1.7             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.22           | 0.20            | 0.09           | 0.37           | 0.33            | 0.15          |
| CWR29D^226^@E+□                | TAZ E 226 * 006 L □ # @ 0 ^ ++ | TAZ E 226 * 006 L □ L @ 9 ^ ++ | E    | 22                                                       | 6                   | 1               | 2       | 20    | 24     | 8     | 10          | 12                   | 0.090                         | 0.30           | 0.27            | 0.12           | 0.30           | 0.27            | 0.12          |
| CWR29D^226^@F+□                | TAZ F 226 * 006 L □ # @ 0 ^ ++ | TAZ F 226 * 006 L □ L @ 9 ^ ++ | F    | 22                                                       | 6                   | 0.6             | 2       | 20    | 24     | 8     | 10          | 12                   | 0.100                         | 0.41           | 0.37            | 0.16           | 0.24           | 0.22            | 0.10          |
| CWR29D^336^@E+□                | TAZ E 336 * 006 L □ # @ 0 ^ ++ | TAZ E 336 * 006 L □ L @ 9 ^ ++ | E    | 33                                                       | 6                   | 1               | 2       | 20    | 24     | 6     | 8           | 8                    | 0.090                         | 0.30           | 0.27            | 0.12           | 0.30           | 0.27            | 0.12          |
| CWR29D^476^@F+□                | TAZ F 476 * 006 L □ # @ 0 ^ ++ | TAZ F 476 * 006 L □ L @ 9 ^ ++ | F    | 47                                                       | 6                   | 1               | 3       | 30    | 36     | 8     | 10          | 12                   | 0.100                         | 0.32           | 0.28            | 0.13           | 0.32           | 0.28            | 0.13          |
| CWR29D^476^@G+□                | TAZ G 476 * 006 L □ # @ 0 ^ ++ | TAZ G 476 * 006 L □ L @ 9 ^ ++ | G    | 47                                                       | 6                   | 0.275           | 3       | 30    | 36     | 10    | 12          | 12                   | 0.125                         | 0.67           | 0.61            | 0.27           | 0.19           | 0.17            | 0.07          |
| CWR29D^686^@F+□                | TAZ F 686 * 006 L □ # @ 0 ^ ++ | TAZ F 686 * 006 L □ L @ 9 ^ ++ | F    | 68                                                       | 6                   | 0.4             | 4       | 40    | 48     | 10    | 12          | 12                   | 0.100                         | 0.50           | 0.45            | 0.20           | 0.20           | 0.18            | 0.08          |
| CWR29D^686^@G+□                | TAZ G 686 * 006 L □ # @ 0 ^ ++ | TAZ G 686 * 006 L □ L @ 9 ^ ++ | G    | 68                                                       | 6                   | 0.25            | 4       | 40    | 48     | 10    | 12          | 12                   | 0.125                         | 0.71           | 0.64            | 0.28           | 0.18           | 0.16            | 0.07          |
| CWR29D^686^@H+□                | TAZ H 686 * 006 L □ # @ 0 ^ ++ | TAZ H 686 * 006 L □ L @ 9 ^ ++ | H    | 68                                                       | 6                   | 0.18            | 4       | 40    | 48     | 10    | 12          | 12                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29D^107^@G+□                | TAZ G 107 * 006 L □ # @ 0 ^ ++ | TAZ G 107 * 006 L □ L @ 9 ^ ++ | G    | 100                                                      | 6                   | 0.275           | 6       | 60    | 72     | 10    | 12          | 12                   | 0.125                         | 0.67           | 0.61            | 0.27           | 0.19           | 0.17            | 0.07          |
| CWR29D^157^@G+□                | TAZ G 157 * 006 L □ # @ 0 ^ ++ | TAZ G 157 * 006 L □ L @ 9 ^ ++ | G    | 150                                                      | 6                   | 0.275           | 10      | 100   | 120    | 10    | 12          | 12                   | 0.125                         | 0.67           | 0.61            | 0.27           | 0.19           | 0.17            | 0.07          |
| CWR29D^227^@H+□                | TAZ H 227 * 006 L □ # @ 0 ^ ++ | TAZ H 227 * 006 L □ L @ 9 ^ ++ | H    | 220                                                      | 6                   | 0.18            | 10      | 100   | 120    | 10    | 12          | 12                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29D^337^@H+□                | TAZ H 337 * 006 L □ # @ 0 ^ ++ | TAZ H 337 * 006 L □ L @ 9 ^ ++ | H    | 330                                                      | 6                   | 0.18            | 20      | 200   | 240    | 10    | 12          | 12                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29F^105^@A+□                | TAZ A 105 * 010 L □ # @ 0 ^ ++ | TAZ A 105 * 010 L □ L @ 9 ^ ++ | A    | 1                                                        | 10                  | 5               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.10           | 0.09            | 0.04           | 0.50           | 0.45            | 0.20          |
| CWR29F^225^@A+□                | TAZ A 225 * 010 L □ # @ 0 ^ ++ | TAZ A 225 * 010 L □ L @ 9 ^ ++ | A    | 2.2                                                      | 10                  | 6               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.09           | 0.08            | 0.04           | 0.55           | 0.49            | 0.22          |
| CWR29F^225^@B+□                | TAZ B 225 * 010 L □ # @ 0      |                                |      |                                                          |                     |                 |         |       |        |       |             |                      |                               |                |                 |                |                |                 |               |

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.



# TAZ Series



## CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                             |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                     |                 |         |       |        |        |             |       | Typical Ripple Data by Rating |                |                |                 |                |                |                 |
|--------------------------------|--------------------------------|-----------------------------|------|----------------------------------------------------------|---------------------|-----------------|---------|-------|--------|--------|-------------|-------|-------------------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|
| CWR29 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N             | Case | Cap<br>@ 120Hz                                           | DC Rated<br>Voltage | ESR<br>@ 100kHz | DCL max |       |        | DF Max |             |       | Power<br>Dissipation          | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple |
|                                |                                |                             |      | μF<br>@ 25°C                                             | V<br>@ +85°C        | Ohms<br>@ +25°C | +25°C   | +85°C | +125°C | +25°C  | +(85/125)°C | -55°C | W                             | A<br>(100kHz)  | A<br>(100kHz)  | A<br>(100kHz)   | V<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   |
| CWR29F475*0D+□                 | TAZ D 475 * 010 L □ # @ 0 ^ ++ | TAZ D 475 * 010 LL @ 9 ^ ++ | D    | 4.7                                                      | 10                  | 1.5             | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.23           | 0.21           | 0.09            | 0.35           | 0.31           | 0.14            |
| CWR29F685*0B+□                 | TAZ B 685 * 010 L □ # @ 0 ^ ++ | TAZ B 685 * 010 LL @ 9 ^ ++ | B    | 6.8                                                      | 10                  | 3.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.070                         | 0.15           | 0.13           | 0.06            | 0.47           | 0.43           | 0.19            |
| CWR29F685*0C+□                 | TAZ C 685 * 010 L □ # @ 0 ^ ++ | TAZ C 685 * 010 LL @ 9 ^ ++ | C    | 6.8                                                      | 10                  | 2.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.075                         | 0.18           | 0.17           | 0.07            | 0.41           | 0.37           | 0.16            |
| CWR29F685*0D+□                 | TAZ D 685 * 010 L □ # @ 0 ^ ++ | TAZ D 685 * 010 LL @ 9 ^ ++ | D    | 6.8                                                      | 10                  | 1.7             | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.22           | 0.20           | 0.09            | 0.37           | 0.33           | 0.15            |
| CWR29F685*0E+□                 | TAZ E 685 * 010 L □ # @ 0 ^ ++ | TAZ E 685 * 010 LL @ 9 ^ ++ | E    | 6.8                                                      | 10                  | 1               | 1       | 10    | 12     | 6      | 8           | 8     | 0.090                         | 0.30           | 0.27           | 0.12            | 0.30           | 0.27           | 0.12            |
| CWR29F106*0B+□                 | TAZ B 106 * 010 L □ # @ 0 ^ ++ | TAZ B 106 * 010 LL @ 9 ^ ++ | B    | 10                                                       | 10                  | 3.2             | 1       | 10    | 12     | 8      | 10          | 10    | 0.070                         | 0.15           | 0.13           | 0.06            | 0.47           | 0.43           | 0.19            |
| CWR29F106*0C+□                 | TAZ C 106 * 010 L □ # @ 0 ^ ++ | TAZ C 106 * 010 LL @ 9 ^ ++ | C    | 10                                                       | 10                  | 2.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.075                         | 0.18           | 0.17           | 0.07            | 0.41           | 0.37           | 0.16            |
| CWR29F106*0D+□                 | TAZ D 106 * 010 L □ # @ 0 ^ ++ | TAZ D 106 * 010 LL @ 9 ^ ++ | D    | 10                                                       | 10                  | 1.3             | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.25           | 0.22           | 0.10            | 0.32           | 0.29           | 0.13            |
| CWR29F106*0E+□                 | TAZ E 106 * 010 L □ # @ 0 ^ ++ | TAZ E 106 * 010 LL @ 9 ^ ++ | E    | 10                                                       | 10                  | 1               | 1       | 10    | 12     | 6      | 8           | 8     | 0.090                         | 0.30           | 0.27           | 0.12            | 0.30           | 0.27           | 0.12            |
| CWR29F156*0D+□                 | TAZ D 156 * 010 L □ # @ 0 ^ ++ | TAZ D 156 * 010 LL @ 9 ^ ++ | D    | 15                                                       | 10                  | 1.7             | 2       | 20    | 24     | 6      | 8           | 8     | 0.080                         | 0.22           | 0.20           | 0.09            | 0.37           | 0.33           | 0.15            |
| CWR29F156*0E+□                 | TAZ E 156 * 010 L □ # @ 0 ^ ++ | TAZ E 156 * 010 LL @ 9 ^ ++ | E    | 15                                                       | 10                  | 0.9             | 2       | 156   | 20     | 24     | 8           | 10    | 0.090                         | 0.32           | 0.28           | 0.13            | 0.28           | 0.26           | 0.11            |
| CWR29F156*0F+□                 | TAZ F 156 * 010 L □ # @ 0 ^ ++ | TAZ F 156 * 010 LL @ 9 ^ ++ | F    | 15                                                       | 10                  | 0.7             | 2       | 20    | 24     | 8      | 8           | 10    | 0.100                         | 0.38           | 0.34           | 0.15            | 0.26           | 0.24           | 0.11            |
| CWR29F226*0E+□                 | TAZ E 226 * 010 L □ # @ 0 ^ ++ | TAZ E 226 * 010 LL @ 9 ^ ++ | E    | 22                                                       | 10                  | 0.6             | 3       | 30    | 36     | 8      | 10          | 10    | 0.090                         | 0.39           | 0.35           | 0.15            | 0.23           | 0.21           | 0.09            |
| CWR29F336*0F+□                 | TAZ F 336 * 010 L □ # @ 0 ^ ++ | TAZ F 336 * 010 LL @ 9 ^ ++ | F    | 33                                                       | 10                  | 0.4             | 3       | 30    | 36     | 8      | 10          | 10    | 0.100                         | 0.50           | 0.45           | 0.20            | 0.20           | 0.18           | 0.08            |
| CWR29F336*0G+□                 | TAZ G 336 * 010 L □ # @ 0 ^ ++ | TAZ G 336 * 010 LL @ 9 ^ ++ | G    | 33                                                       | 10                  | 0.275           | 3       | 30    | 36     | 10     | 12          | 12    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29F476*0F+□                 | TAZ F 476 * 010 L □ # @ 0 ^ ++ | TAZ F 476 * 010 LL @ 9 ^ ++ | F    | 47                                                       | 10                  | 0.4             | 4       | 40    | 48     | 10     | 12          | 12    | 0.100                         | 0.50           | 0.45           | 0.20            | 0.20           | 0.18           | 0.08            |
| CWR29F476*0G+□                 | TAZ G 476 * 010 L □ # @ 0 ^ ++ | TAZ G 476 * 010 LL @ 9 ^ ++ | G    | 47                                                       | 10                  | 0.25            | 4       | 40    | 48     | 10     | 12          | 12    | 0.125                         | 0.71           | 0.64           | 0.28            | 0.18           | 0.16           | 0.07            |
| CWR29F476*0H+□                 | TAZ H 476 * 010 L □ # @ 0 ^ ++ | TAZ H 476 * 010 LL @ 9 ^ ++ | H    | 47                                                       | 10                  | 0.18            | 5       | 50    | 60     | 10     | 12          | 12    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29F686*0G+□                 | TAZ G 686 * 010 L □ # @ 0 ^ ++ | TAZ G 686 * 010 LL @ 9 ^ ++ | G    | 68                                                       | 10                  | 0.275           | 6       | 60    | 72     | 10     | 12          | 12    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29F107*0G+□                 | TAZ G 107 * 010 L □ # @ 0 ^ ++ | TAZ G 107 * 010 LL @ 9 ^ ++ | G    | 100                                                      | 10                  | 0.275           | 10      | 100   | 120    | 10     | 12          | 12    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29F107*0H+□                 | TAZ H 107 * 010 L □ # @ 0 ^ ++ | TAZ H 107 * 010 LL @ 9 ^ ++ | H    | 100                                                      | 10                  | 0.18            | 10      | 100   | 120    | 10     | 12          | 12    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29F157*0H+□                 | TAZ H 157 * 010 L □ # @ 0 ^ ++ | TAZ H 157 * 010 LL @ 9 ^ ++ | H    | 150                                                      | 10                  | 0.18            | 15      | 150   | 180    | 10     | 12          | 12    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29F157*0X+□                 | TAZ X 157 * 010 L □ # @ 0 ^ ++ | TAZ X 157 * 010 LL @ 9 ^ ++ | X    | 150                                                      | 10                  | 0.065           | 15      | 150   | 180    | 10     | 12          | 12    | 0.200                         | 1.75           | 1.58           | 0.70            | 0.11           | 0.10           | 0.05            |
| CWR29F227*0H+□                 | TAZ H 227 * 010 L □ # @ 0 ^ ++ | TAZ H 227 * 010 LL @ 9 ^ ++ | H    | 220                                                      | 10                  | 0.18            | 20      | 227   | 240    | 10     | 12          | 12    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29H684*0A+□                 | TAZ A 684 * 015 L □ # @ 0 ^ ++ | TAZ A 684 * 015 LL @ 9 ^ ++ | A    | 0.68                                                     | 15                  | 6               | 1       | 10    | 12     | 6      | 8           | 8     | 0.050                         | 0.09           | 0.08           | 0.04            | 0.55           | 0.49           | 0.22            |
| CWR29H105*0A+□                 | TAZ A 105 * 015 L □ # @ 0 ^ ++ | TAZ A 105 * 015 LL @ 9 ^ ++ | A    | 1                                                        | 15                  | 7.5             | 1       | 10    | 12     | 6      | 8           | 8     | 0.050                         | 0.08           | 0.07           | 0.03            | 0.61           | 0.55           | 0.24            |
| CWR29H155*0A+□                 | TAZ A 155 * 015 L □ # @ 0 ^ ++ | TAZ A 155 * 015 LL @ 9 ^ ++ | A    | 1.5                                                      | 15                  | 7.5             | 1       | 10    | 12     | 6      | 8           | 8     | 0.050                         | 0.08           | 0.07           | 0.03            | 0.61           | 0.55           | 0.24            |
| CWR29H155*0B+□                 | TAZ B 155 * 015 L □ # @ 0 ^ ++ | TAZ B 155 * 015 LL @ 9 ^ ++ | B    | 1.5                                                      | 15                  | 3.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.070                         | 0.15           | 0.13           | 0.06            | 0.47           | 0.43           | 0.19            |
| CWR29H225*0A+□                 | TAZ A 225 * 015 L □ # @ 0 ^ ++ | TAZ A 225 * 015 LL @ 9 ^ ++ | A    | 2.2                                                      | 15                  | 7.5             | 1       | 10    | 12     | 6      | 8           | 8     | 0.050                         | 0.08           | 0.07           | 0.03            | 0.61           | 0.55           | 0.24            |
| CWR29H225*0C+□                 | TAZ C 225 * 015 L □ # @ 0 ^ ++ | TAZ C 225 * 015 LL @ 9 ^ ++ | C    | 2.2                                                      | 15                  | 2.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.075                         | 0.18           | 0.17           | 0.07            | 0.41           | 0.37           | 0.16            |
| CWR29H335*0B+□                 | TAZ B 335 * 015 L □ # @ 0 ^ ++ | TAZ B 335 * 015 LL @ 9 ^ ++ | B    | 3.3                                                      | 15                  | 3.6             | 1       | 10    | 12     | 6      | 8           | 8     | 0.070                         | 0.14           | 0.13           | 0.06            | 0.50           | 0.45           | 0.20            |
| CWR29H335*0D+□                 | TAZ D 335 * 015 L □ # @ 0 ^ ++ | TAZ D 335 * 015 LL @ 9 ^ ++ | D    | 3.3                                                      | 15                  | 1.7             | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.22           | 0.20           | 0.09            | 0.37           | 0.33           | 0.15            |
| CWR29H475*0B+□                 | TAZ B 475 * 015 L □ # @ 0 ^ ++ | TAZ B 475 * 015 LL @ 9 ^ ++ | B    | 4.7                                                      | 15                  | 2               | 1       | 10    | 12     | 6      | 8           | 8     | 0.070                         | 0.19           | 0.17           | 0.07            | 0.37           | 0.34           | 0.15            |
| CWR29H475*0C+□                 | TAZ C 475 * 015 L □ # @ 0 ^ ++ | TAZ C 475 * 015 LL @ 9 ^ ++ | C    | 4.7                                                      | 15                  | 2.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.075                         | 0.18           | 0.17           | 0.07            | 0.41           | 0.37           | 0.16            |
| CWR29H475*0D+□                 | TAZ D 475 * 015 L □ # @ 0 ^ ++ | TAZ D 475 * 015 LL @ 9 ^ ++ | D    | 4.7                                                      | 15                  | 2               | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.20           | 0.18           | 0.08            | 0.40           | 0.36           | 0.16            |
| CWR29H475*0E+□                 | TAZ E 475 * 015 L □ # @ 0 ^ ++ | TAZ E 475 * 015 LL @ 9 ^ ++ | E    | 4.7                                                      | 15                  | 1.2             | 1       | 10    | 12     | 6      | 8           | 8     | 0.090                         | 0.27           | 0.25           | 0.11            | 0.33           | 0.30           | 0.13            |
| CWR29H685*0D+□                 | TAZ D 685 * 015 L □ # @ 0 ^ ++ | TAZ D 685 * 015 LL @ 9 ^ ++ | D    | 6.8                                                      | 15                  | 2               | 1       | 10    | 12     | 6      | 8           | 8     | 0.080                         | 0.20           | 0.18           | 0.08            | 0.40           | 0.36           | 0.16            |
| CWR29H685*0E+□                 | TAZ E 685 * 015 L □ # @ 0 ^ ++ | TAZ E 685 * 015 LL @ 9 ^ ++ | E    | 6.8                                                      | 15                  | 0.9             | 1       | 10    | 12     | 8      | 10          | 12    | 0.090                         | 0.32           | 0.28           | 0.13            | 0.28           | 0.26           | 0.11            |
| CWR29H106*0D+□                 | TAZ D 106 * 015 L □ # @ 0 ^ ++ | TAZ D 106 * 015 LL @ 9 ^ ++ | D    | 10                                                       | 15                  | 2               | 2       | 20    | 24     | 6      | 8           | 8     | 0.080                         | 0.20           | 0.18           | 0.08            | 0.40           | 0.36           | 0.16            |
| CWR29H106*0E+□                 | TAZ E 106 * 015 L □ # @ 0 ^ ++ | TAZ E 106 * 015 LL @ 9 ^ ++ | E    | 10                                                       | 15                  | 1.2             | 2       | 20    | 24     | 6      | 8           | 8     | 0.090                         | 0.27           | 0.25           | 0.11            | 0.33           | 0.30           | 0.13            |
| CWR29H106*0F+□                 | TAZ F 106 * 015 L □ # @ 0 ^ ++ | TAZ F 106 * 015 LL @ 9 ^ ++ | F    | 10                                                       | 15                  | 0.667           | 2       | 20    | 24     | 6      | 8           | 8     | 0.100                         | 0.39           | 0.35           | 0.15            | 0.26           | 0.23           | 0.10            |
| CWR29H156*0E+□                 | TAZ E 156 * 015 L □ # @ 0 ^ ++ | TAZ E 156 * 015 LL @ 9 ^ ++ | E    | 15                                                       | 15                  | 1.2             | 2       | 20    | 24     | 6      | 8           | 8     | 0.090                         | 0.27           | 0.25           | 0.11            | 0.33           | 0.30           | 0.13            |
| CWR29H156*0F+□                 | TAZ F 156 * 015 L □ # @ 0 ^ ++ | TAZ F 156 * 015 LL @ 9 ^ ++ | F    | 15                                                       | 15                  | 0.8             | 2       | 20    | 24     | 8      | 10          | 10    | 0.100                         | 0.35           | 0.32           | 0.14            | 0.28           | 0.25           | 0.11            |
| CWR29H226*0F+□                 | TAZ F 226 * 015 L □ # @ 0 ^ ++ | TAZ F 226 * 015 LL @ 9 ^ ++ | F    | 22                                                       | 15                  | 0.8             | 3       | 30    | 36     | 8      | 10          | 10    | 0.100                         | 0.35           | 0.32           | 0.14            | 0.28           | 0.25           | 0.11            |
| CWR29H226*0G+□                 | TAZ G 226 * 015 L □ # @ 0 ^ ++ | TAZ G 226 * 015 LL @ 9 ^ ++ | G    | 22                                                       | 15                  | 0.275           | 4       | 226   | 48     | 6      | 8           | 8     | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29H336*0F+□                 | TAZ F 336 * 015 L □ # @ 0 ^ ++ | TAZ F 336 * 015 LL @ 9 ^ ++ | F    | 33                                                       | 15                  | 0.8             | 5       | 50    | 60     | 6      | 8           | 8     | 0.100                         | 0.35           | 0.32           | 0.14            | 0.28           | 0.25           | 0.11            |
| CWR29H336*0G+□                 | TAZ G 336 * 015 L □ # @ 0 ^ ++ | TAZ G 336 * 015 LL @ 9 ^ ++ | G    | 33                                                       | 15                  | 0.275           | 6       | 336   | 72     | 8      | 10          | 10    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29H336*0H+□                 | TAZ H 336 * 015 L □ # @ 0 ^ ++ | TAZ H 336 * 015 LL @ 9 ^ ++ | H    | 33                                                       | 15                  | 0.18            | 5       | 50    | 60     | 8      | 10          | 10    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29H476*0G+□                 | TAZ G 476 * 015 L □ # @ 0 ^ ++ | TAZ G 476 * 015 LL @ 9 ^ ++ | G    | 47                                                       | 15                  | 0.275           | 10      | 100   | 120    | 8      | 10          | 10    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29H476*0H+□                 | TAZ H 476 * 015 L □ # @ 0 ^ ++ | TAZ H 476 * 015 LL @ 9 ^ ++ | H    | 47                                                       | 15                  | 0.18            | 10      | 100   | 120    | 8      | 10          | 10    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29H686*0G+□                 | TAZ G 686 * 015 L □ # @ 0 ^ ++ | TAZ G 686 * 015 LL @ 9 ^ ++ | G    | 68                                                       | 15                  | 0.275           | 10      | 100   | 120    | 8      | 10          | 10    | 0.125                         | 0.67           | 0.61           | 0.27            | 0.19           | 0.17           | 0.07            |
| CWR29H686*0H+□                 | TAZ H 686 * 015 L □ # @ 0 ^ ++ | TAZ H 686 * 015 LL @ 9 ^ ++ | H    | 68                                                       | 15                  | 0.18            | 10      | 100   | 120    | 8      | 10          | 10    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29H107*0H+□                 | TAZ H 107 * 015 L □ # @ 0 ^ ++ | TAZ H 107 * 015 LL @ 9 ^ ++ | H    | 100                                                      | 15                  | 0.18            | 15      | 150   | 180    | 10     | 12          | 12    | 0.150                         | 0.91           | 0.82           | 0.37            | 0.16           | 0.15           | 0.07            |
| CWR29J474*0A+□                 | TAZ A 474 * 020 L □ # @ 0 ^ ++ | TAZ A 474 * 020 LL @ 9 ^ ++ | A    | 0.47                                                     | 20                  | 7.5             | 1       | 10    | 12     | 8      | 8           | 10    | 0.050                         | 0.08           | 0.07           | 0.03            | 0.61           | 0.55           | 0.24            |
| CWR29J684*0A+□                 | TAZ A 684 * 020 L □ # @ 0 ^ ++ | TAZ A 684 * 020 LL @ 9 ^ ++ | A    | 0.68                                                     | 20                  | 7.5             | 1       | 10    | 12     | 6      | 8           | 8     | 0.050                         | 0.08           | 0.07           | 0.03            | 0.61           | 0.55           | 0.24            |

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.



# TAZ Series



## CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                             |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                     |                 |         |       |        |       |             |                      | Typical Ripple Data by Rating |                |                 |                |                |                 |               |
|--------------------------------|--------------------------------|-----------------------------|------|----------------------------------------------------------|---------------------|-----------------|---------|-------|--------|-------|-------------|----------------------|-------------------------------|----------------|-----------------|----------------|----------------|-----------------|---------------|
|                                |                                |                             |      | Cap<br>@ 120Hz                                           | DC Rated<br>Voltage | ESR<br>@ 100kHz | DCL max |       | DF Max |       |             | Power<br>Dissipation | 25°C<br>Ripple                | 85°C<br>Ripple | 125°C<br>Ripple | 25°C<br>Ripple | 85°C<br>Ripple | 125°C<br>Ripple |               |
|                                |                                |                             |      | μF<br>@ 25°C                                             | V<br>@ +85°C        | Ohms<br>@ +25°C | +25°C   | +85°C | +125°C | +25°C | +(85/125)°C |                      |                               |                |                 |                |                |                 | -55°C         |
| CWR29 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N             | Case |                                                          |                     |                 | (μA)    | (μA)  | (μA)   | (%)   | (%)         | (%)                  | W                             | A<br>(100kHz)  | A<br>(100kHz)   | A<br>(100kHz)  | V<br>(100kHz)  | V<br>(100kHz)   | V<br>(100kHz) |
| CWR29J*684*0B+                 | TAZ B 684 * 020 L □ # @ 0 ° ++ | TAZ B 684 * 020 LL @ 9 ° ++ | B    | 0.68                                                     | 20                  | 5.6             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.11           | 0.10            | 0.04           | 0.63           | 0.56            | 0.25          |
| CWR29J*105*0A+                 | TAZ A 105 * 020 L □ # @ 0 ° ++ | TAZ A 105 * 020 LL @ 9 ° ++ | A    | 1                                                        | 20                  | 7.5             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.08           | 0.07            | 0.03           | 0.61           | 0.55            | 0.24          |
| CWR29J*105*0B+                 | TAZ B 105 * 020 L □ # @ 0 ° ++ | TAZ B 105 * 020 LL @ 9 ° ++ | B    | 1                                                        | 20                  | 4.8             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.12           | 0.11            | 0.05           | 0.58           | 0.52            | 0.23          |
| CWR29J*155*0B+                 | TAZ B 155 * 020 L □ # @ 0 ° ++ | TAZ B 155 * 020 LL @ 9 ° ++ | B    | 1.5                                                      | 20                  | 3.6             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.14           | 0.13            | 0.06           | 0.50           | 0.45            | 0.20          |
| CWR29J*155*0C+                 | TAZ C 155 * 020 L □ # @ 0 ° ++ | TAZ C 155 * 020 LL @ 9 ° ++ | C    | 1.5                                                      | 20                  | 2.4             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.075                         | 0.18           | 0.16            | 0.07           | 0.42           | 0.38            | 0.17          |
| CWR29J*225*0B+                 | TAZ B 225 * 020 L □ # @ 0 ° ++ | TAZ B 225 * 020 LL @ 9 ° ++ | B    | 2.2                                                      | 20                  | 3.6             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.14           | 0.13            | 0.06           | 0.50           | 0.45            | 0.20          |
| CWR29J*225*0D+                 | TAZ D 225 * 020 L □ # @ 0 ° ++ | TAZ D 225 * 020 LL @ 9 ° ++ | D    | 2.2                                                      | 20                  | 1.7             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.22           | 0.20            | 0.09           | 0.37           | 0.33            | 0.15          |
| CWR29J*335*0D+                 | TAZ D 335 * 020 L □ # @ 0 ° ++ | TAZ D 335 * 020 LL @ 9 ° ++ | D    | 3.3                                                      | 20                  | 2               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.20           | 0.18            | 0.08           | 0.40           | 0.36            | 0.16          |
| CWR29J*335*0E+                 | TAZ E 335 * 020 L □ # @ 0 ° ++ | TAZ E 335 * 020 LL @ 9 ° ++ | E    | 3.3                                                      | 20                  | 1.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.090                         | 0.27           | 0.25            | 0.11           | 0.33           | 0.30            | 0.13          |
| CWR29J*475*0E+                 | TAZ E 475 * 020 L □ # @ 0 ° ++ | TAZ E 475 * 020 LL @ 9 ° ++ | E    | 4.7                                                      | 20                  | 1.7             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.090                         | 0.23           | 0.21            | 0.09           | 0.39           | 0.35            | 0.16          |
| CWR29J*685*0E+                 | TAZ E 685 * 020 L □ # @ 0 ° ++ | TAZ E 685 * 020 LL @ 9 ° ++ | E    | 6.8                                                      | 20                  | 1.5             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.090                         | 0.24           | 0.22            | 0.10           | 0.37           | 0.33            | 0.15          |
| CWR29J*685*0F+                 | TAZ F 685 * 020 L □ # @ 0 ° ++ | TAZ F 685 * 020 LL @ 9 ° ++ | F    | 6.8                                                      | 20                  | 0.7             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.100                         | 0.38           | 0.34            | 0.15           | 0.26           | 0.24            | 0.11          |
| CWR29J*106*0E+                 | TAZ E 106 * 020 L □ # @ 0 ° ++ | TAZ E 106 * 020 LL @ 9 ° ++ | E    | 10                                                       | 20                  | 1.5             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.090                         | 0.24           | 0.22            | 0.10           | 0.37           | 0.33            | 0.15          |
| CWR29J*106*0F+                 | TAZ F 106 * 020 L □ # @ 0 ° ++ | TAZ F 106 * 020 LL @ 9 ° ++ | F    | 10                                                       | 20                  | 0.8             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.100                         | 0.35           | 0.32            | 0.14           | 0.28           | 0.25            | 0.11          |
| CWR29J*156*0F+                 | TAZ F 156 * 020 L □ # @ 0 ° ++ | TAZ F 156 * 020 LL @ 9 ° ++ | F    | 15                                                       | 20                  | 0.8             | 3       | 30    | 36     | 6     | 8           | 8                    | 0.100                         | 0.35           | 0.32            | 0.14           | 0.28           | 0.25            | 0.11          |
| CWR29J*156*0G+                 | TAZ G 156 * 020 L □ # @ 0 ° ++ | TAZ G 156 * 020 LL @ 9 ° ++ | G    | 15                                                       | 20                  | 0.275           | 3       | 30    | 36     | 6     | 8           | 8                    | 0.125                         | 0.67           | 0.61            | 0.27           | 0.19           | 0.17            | 0.07          |
| CWR29J*226*0G+                 | TAZ G 226 * 020 L □ # @ 0 ° ++ | TAZ G 226 * 020 LL @ 9 ° ++ | G    | 22                                                       | 20                  | 0.625           | 4       | 40    | 48     | 6     | 8           | 8                    | 0.125                         | 0.45           | 0.40            | 0.18           | 0.28           | 0.25            | 0.11          |
| CWR29J*226*0H+                 | TAZ H 226 * 020 L □ # @ 0 ° ++ | TAZ H 226 * 020 LL @ 9 ° ++ | H    | 22                                                       | 20                  | 0.18            | 4       | 40    | 48     | 6     | 8           | 8                    | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29J*336*0H+                 | TAZ H 336 * 020 L □ # @ 0 ° ++ | TAZ H 336 * 020 LL @ 9 ° ++ | H    | 33                                                       | 20                  | 0.18            | 6       | 60    | 72     | 8     | 10          | 10                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29J*476*0H+                 | TAZ H 476 * 020 L □ # @ 0 ° ++ | TAZ H 476 * 020 LL @ 9 ° ++ | H    | 47                                                       | 20                  | 0.18            | 10      | 100   | 120    | 8     | 10          | 10                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29J*476*0X+                 | TAZ X 476 * 020 L □ # @ 0 ° ++ | TAZ X 476 * 020 LL @ 9 ° ++ | X    | 47                                                       | 20                  | 0.11            | 10      | 100   | 120    | 8     | 10          | 10                   | 0.200                         | 1.35           | 1.21            | 0.54           | 0.15           | 0.13            | 0.06          |
| CWR29K*334*0A+                 | TAZ A 334 * 025 L □ # @ 0 ° ++ | TAZ A 334 * 025 LL @ 9 ° ++ | A    | 0.33                                                     | 25                  | 7.5             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.08           | 0.07            | 0.03           | 0.61           | 0.55            | 0.24          |
| CWR29K*474*0A+                 | TAZ A 474 * 025 L □ # @ 0 ° ++ | TAZ A 474 * 025 LL @ 9 ° ++ | A    | 0.47                                                     | 25                  | 7.5             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.08           | 0.07            | 0.03           | 0.61           | 0.55            | 0.24          |
| CWR29K*684*0B+                 | TAZ B 684 * 025 L □ # @ 0 ° ++ | TAZ B 684 * 025 LL @ 9 ° ++ | B    | 0.68                                                     | 25                  | 4               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.13           | 0.12            | 0.05           | 0.53           | 0.48            | 0.21          |
| CWR29K*105*0B+                 | TAZ B 105 * 025 L □ # @ 0 ° ++ | TAZ B 105 * 025 LL @ 9 ° ++ | B    | 1                                                        | 25                  | 4               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.13           | 0.12            | 0.05           | 0.53           | 0.48            | 0.21          |
| CWR29K*105*0C+                 | TAZ C 105 * 025 L □ # @ 0 ° ++ | TAZ C 105 * 025 LL @ 9 ° ++ | C    | 1                                                        | 25                  | 2.6             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.075                         | 0.17           | 0.15            | 0.07           | 0.44           | 0.40            | 0.18          |
| CWR29K*155*0D+                 | TAZ D 155 * 025 L □ # @ 0 ° ++ | TAZ D 155 * 025 LL @ 9 ° ++ | D    | 1.5                                                      | 25                  | 1.7             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.22           | 0.20            | 0.09           | 0.37           | 0.33            | 0.15          |
| CWR29K*225*0D+                 | TAZ D 225 * 025 L □ # @ 0 ° ++ | TAZ D 225 * 025 LL @ 9 ° ++ | D    | 2.2                                                      | 25                  | 2               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.20           | 0.18            | 0.08           | 0.40           | 0.36            | 0.16          |
| CWR29K*225*0E+                 | TAZ E 225 * 025 L □ # @ 0 ° ++ | TAZ E 225 * 025 LL @ 9 ° ++ | E    | 2.2                                                      | 25                  | 1               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.090                         | 0.30           | 0.27            | 0.12           | 0.30           | 0.27            | 0.12          |
| CWR29K*335*0E+                 | TAZ E 335 * 025 L □ # @ 0 ° ++ | TAZ E 335 * 025 LL @ 9 ° ++ | E    | 3.3                                                      | 25                  | 1.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.090                         | 0.27           | 0.25            | 0.11           | 0.33           | 0.30            | 0.13          |
| CWR29K*475*0F+                 | TAZ F 475 * 025 L □ # @ 0 ° ++ | TAZ F 475 * 025 LL @ 9 ° ++ | F    | 4.7                                                      | 25                  | 0.7             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.100                         | 0.38           | 0.34            | 0.15           | 0.26           | 0.24            | 0.11          |
| CWR29K*685*0F+                 | TAZ F 685 * 025 L □ # @ 0 ° ++ | TAZ F 685 * 025 LL @ 9 ° ++ | F    | 6.8                                                      | 25                  | 0.8             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.100                         | 0.35           | 0.32            | 0.14           | 0.28           | 0.25            | 0.11          |
| CWR29K*685*0G+                 | TAZ G 685 * 025 L □ # @ 0 ° ++ | TAZ G 685 * 025 LL @ 9 ° ++ | G    | 6.8                                                      | 25                  | 0.3             | 2       | 20    | 24     | 6     | 8           | 8                    | 0.125                         | 0.65           | 0.58            | 0.26           | 0.19           | 0.17            | 0.08          |
| CWR29K*106*0G+                 | TAZ G 106 * 025 L □ # @ 0 ° ++ | TAZ G 106 * 025 LL @ 9 ° ++ | G    | 10                                                       | 25                  | 0.35            | 3       | 30    | 36     | 6     | 8           | 8                    | 0.125                         | 0.60           | 0.54            | 0.24           | 0.21           | 0.19            | 0.08          |
| CWR29K*156*0G+                 | TAZ G 156 * 025 L □ # @ 0 ° ++ | TAZ G 156 * 025 LL @ 9 ° ++ | G    | 15                                                       | 25                  | 0.35            | 4       | 40    | 48     | 6     | 8           | 8                    | 0.125                         | 0.60           | 0.54            | 0.24           | 0.21           | 0.19            | 0.08          |
| CWR29K*156*0H+                 | TAZ H 156 * 025 L □ # @ 0 ° ++ | TAZ H 156 * 025 LL @ 9 ° ++ | H    | 15                                                       | 25                  | 0.2             | 4       | 40    | 48     | 6     | 8           | 8                    | 0.150                         | 0.87           | 0.78            | 0.35           | 0.17           | 0.16            | 0.07          |
| CWR29K*226*0G+                 | TAZ G 226 * 025 L □ # @ 0 ° ++ | TAZ G 226 * 025 LL @ 9 ° ++ | G    | 22                                                       | 25                  | 0.35            | 6       | 60    | 72     | 6     | 8           | 8                    | 0.125                         | 0.60           | 0.54            | 0.24           | 0.21           | 0.19            | 0.08          |
| CWR29K*226*0H+                 | TAZ H 226 * 025 L □ # @ 0 ° ++ | TAZ H 226 * 025 LL @ 9 ° ++ | H    | 22                                                       | 25                  | 0.18            | 6       | 60    | 72     | 6     | 8           | 8                    | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29K*336*0H+                 | TAZ H 336 * 025 L □ # @ 0 ° ++ | TAZ H 336 * 025 LL @ 9 ° ++ | H    | 33                                                       | 25                  | 0.18            | 10      | 100   | 120    | 8     | 10          | 10                   | 0.150                         | 0.91           | 0.82            | 0.37           | 0.16           | 0.15            | 0.07          |
| CWR29M*224*0A+                 | TAZ A 224 * 035 L □ # @ 0 ° ++ | TAZ A 224 * 035 LL @ 9 ° ++ | A    | 0.22                                                     | 35                  | 12              | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.06           | 0.06            | 0.03           | 0.77           | 0.70            | 0.31          |
| CWR29M*334*0A+                 | TAZ A 334 * 035 L □ # @ 0 ° ++ | TAZ A 334 * 035 LL @ 9 ° ++ | A    | 0.33                                                     | 35                  | 12              | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.06           | 0.06            | 0.03           | 0.77           | 0.70            | 0.31          |
| CWR29M*474*0B+                 | TAZ B 474 * 035 L □ # @ 0 ° ++ | TAZ B 474 * 035 LL @ 9 ° ++ | B    | 0.47                                                     | 35                  | 6.8             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.070                         | 0.10           | 0.09            | 0.04           | 0.69           | 0.62            | 0.28          |
| CWR29M*684*0C+                 | TAZ C 684 * 035 L □ # @ 0 ° ++ | TAZ C 684 * 035 LL @ 9 ° ++ | C    | 0.68                                                     | 35                  | 4               | 1       | 10    | 12     | 6     | 8           | 8                    | 0.075                         | 0.14           | 0.12            | 0.05           | 0.55           | 0.49            | 0.22          |
| CWR29M*105*0D+                 | TAZ D 105 * 035 L □ # @ 0 ° ++ | TAZ D 105 * 035 LL @ 9 ° ++ | D    | 1                                                        | 35                  | 2.2             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.080                         | 0.19           | 0.17            | 0.08           | 0.42           | 0.38            | 0.17          |
| CWR29M*155*0E+                 | TAZ E 155 * 035 L □ # @ 0 ° ++ | TAZ E 155 * 035 LL @ 9 ° ++ | E    | 1.5                                                      | 35                  | 1.3             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.090                         | 0.26           | 0.24            | 0.11           | 0.34           | 0.31            | 0.14          |
| CWR29M*335*0F+                 | TAZ F 335 * 035 L □ # @ 0 ° ++ | TAZ F 335 * 035 LL @ 9 ° ++ | F    | 3.3                                                      | 35                  | 0.7             | 1       | 10    | 12     | 6     | 8           | 8                    | 0.100                         | 0.38           | 0.34            | 0.15           | 0.26           | 0.24            | 0.11          |
| CWR29M*475*0G+                 | TAZ G 475 * 035 L □ # @ 0 ° ++ | TAZ G 475 * 035 LL @ 9 ° ++ | G    | 4.7                                                      | 35                  | 0.375           | 2       | 20    | 24     | 6     | 8           | 8                    | 0.125                         | 0.58           | 0.52            | 0.23           | 0.22           | 0.19            | 0.09          |
| CWR29M*685*0G+                 | TAZ G 685 * 035 L □ # @ 0 ° ++ | TAZ G 685 * 035 LL @ 9 ° ++ | G    | 6.8                                                      | 35                  | 0.375           | 3       | 30    | 36     | 6     | 8           | 8                    | 0.125                         | 0.58           | 0.52            | 0.23           | 0.22           | 0.19            | 0.09          |
| CWR29M*685*0H+                 | TAZ H 685 * 035 L □ # @ 0 ° ++ | TAZ H 685 * 035 LL @ 9 ° ++ | H    | 6.8                                                      | 35                  | 0.5             | 3       | 30    | 36     | 6     | 8           | 8                    | 0.150                         | 0.55           | 0.49            | 0.22           | 0.27           | 0.25            | 0.11          |
| CWR29M*106*0H+                 | TAZ H 106 * 035 L □ # @ 0 ° ++ | TAZ H 106 * 035 LL @ 9 ° ++ | H    | 10                                                       | 35                  | 0.5             | 4       | 40    | 48     | 8     | 10          | 10                   | 0.150                         | 0.55           | 0.49            | 0.22           | 0.27           | 0.25            | 0.11          |
| CWR29N*104*0A+                 | TAZ A 104 * 050 L □ # @ 0 ° ++ | TAZ A 104 * 050 LL @ 9 ° ++ | A    | 0.1                                                      | 50                  | 12              | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.06           | 0.06            | 0.03           | 0.77           | 0.70            | 0.31          |
| CWR29N*154*0A+                 | TAZ A 154 * 050 L □ # @ 0 ° ++ | TAZ A 154 * 050 LL @ 9 ° ++ | A    | 0.15                                                     | 50                  | 12              | 1       | 10    | 12     | 6     | 8           | 8                    | 0.050                         | 0.06           | 0.06            | 0.03           | 0.77           | 0.70            | 0.31          |

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.



# TAZ Series



## CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

| RATING & PART NUMBER REFERENCE |                                |                              |      | Parametric Specifications by Rating per MIL-PRF-55365/11 |                                     |                                    |               |               |                |              |                              | Typical Ripple Data by Rating |                           |                                 |                                 |                                  |                                 |                                 |                                  |
|--------------------------------|--------------------------------|------------------------------|------|----------------------------------------------------------|-------------------------------------|------------------------------------|---------------|---------------|----------------|--------------|------------------------------|-------------------------------|---------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
|                                |                                |                              |      | 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 | +25°C<br>(μA) | +85°C<br>(μA) | +125°C<br>(μA) | +25°C<br>(%) | DF Max<br>+(85/125)°C<br>(%) | -55°C<br>(%)                  | Power<br>Dissipation<br>W | 25°C<br>Ripple<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) |
| CWR29 P/N                      | AVX MIL & COTS-Plus P/N        | AVX SRC9000 P/N              | Case | C                                                        | D                                   | E                                  | F             | G             | H              |              |                              |                               |                           |                                 |                                 |                                  |                                 |                                 |                                  |
| CWR29N^224* <sup>+</sup> B+□   | TAZ B 224 * 050 L □ # @ 0 ^ ++ | TAZ B 224 * 050 L L @ 9 ^ ++ | B    | 0.22                                                     | 50                                  | 6.8                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.070                     | 0.10                            | 0.09                            | 0.04                             | 0.69                            | 0.62                            | 0.28                             |
| CWR29N^334* <sup>+</sup> B+□   | TAZ B 334 * 050 L □ # @ 0 ^ ++ | TAZ B 334 * 050 L L @ 9 ^ ++ | B    | 0.33                                                     | 50                                  | 4.8                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.070                     | 0.12                            | 0.11                            | 0.05                             | 0.58                            | 0.52                            | 0.23                             |
| CWR29N^474* <sup>+</sup> C+□   | TAZ C 474 * 050 L □ # @ 0 ^ ++ | TAZ C 474 * 050 L L @ 9 ^ ++ | C    | 0.47                                                     | 50                                  | 3.2                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.075                     | 0.15                            | 0.14                            | 0.06                             | 0.49                            | 0.44                            | 0.20                             |
| CWR29N^684* <sup>+</sup> D+□   | TAZ D 684 * 050 L □ # @ 0 ^ ++ | TAZ D 684 * 050 L L @ 9 ^ ++ | D    | 0.68                                                     | 50                                  | 2.3                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.080                     | 0.19                            | 0.17                            | 0.07                             | 0.43                            | 0.39                            | 0.17                             |
| CWR29N^105* <sup>+</sup> E+□   | TAZ E 105 * 050 L □ # @ 0 ^ ++ | TAZ E 105 * 050 L L @ 9 ^ ++ | E    | 1                                                        | 50                                  | 1.7                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.090                     | 0.23                            | 0.21                            | 0.09                             | 0.39                            | 0.35                            | 0.16                             |
| CWR29N^155* <sup>+</sup> F+□   | TAZ F 155 * 050 L □ # @ 0 ^ ++ | TAZ F 155 * 050 L L @ 9 ^ ++ | F    | 1.5                                                      | 50                                  | 1.1                                | 1             | 10            | 12             | 6            | 8                            | 8                             | 0.100                     | 0.30                            | 0.27                            | 0.12                             | 0.33                            | 0.30                            | 0.13                             |
| CWR29N^225* <sup>+</sup> F+□   | TAZ F 225 * 050 L □ # @ 0 ^ ++ | TAZ F 225 * 050 L L @ 9 ^ ++ | F    | 2.2                                                      | 50                                  | 0.7                                | 2             | 20            | 24             | 6            | 8                            | 8                             | 0.100                     | 0.38                            | 0.34                            | 0.15                             | 0.26                            | 0.24                            | 0.11                             |
| CWR29N^335* <sup>+</sup> G+□   | TAZ G 335 * 050 L □ # @ 0 ^ ++ | TAZ G 335 * 050 L L @ 9 ^ ++ | G    | 3.3                                                      | 50                                  | 0.5                                | 2             | 20            | 24             | 6            | 8                            | 8                             | 0.125                     | 0.50                            | 0.45                            | 0.20                             | 0.25                            | 0.23                            | 0.10                             |
| CWR29N^475* <sup>+</sup> H+□   | TAZ H 475 * 050 L □ # @ 0 ^ ++ | TAZ H 475 * 050 L L @ 9 ^ ++ | H    | 4.7                                                      | 50                                  | 0.5                                | 3             | 30            | 36             | 6            | 8                            | 8                             | 0.150                     | 0.55                            | 0.49                            | 0.22                             | 0.27                            | 0.25                            | 0.11                             |

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.

# TAZ Cots+, CWR09, CWR19 and CWR29 Series



## Tape and Reel Packaging

Solid Tantalum Chip TAZ Tape and reel packaging for automatic component placement.  
Please enter required Suffix on order. Bulk packaging is standard.

### TAZ TAPING SUFFIX TABLE

| Case Size reference | Tape width mm | P mm | 7" (180mm) reel |      | 13" reel (330mm) reel |      |
|---------------------|---------------|------|-----------------|------|-----------------------|------|
|                     |               |      | Suffix          | Qty. | Suffix                | Qty. |
| A                   | 8             | 4    | R               | 2500 | S                     | 9000 |
| B                   | 12            | 4    | R               | 2500 | S                     | 9000 |
| C                   | 12            | 4    | R               | 2500 | S                     | 9000 |
| D                   | 12            | 4    | R               | 2500 | S                     | 8000 |
| E                   | 12            | 4    | R               | 2500 | S                     | 8000 |
| F                   | 12            | 8    | R               | 1000 | S                     | 3000 |
| G                   | 12            | 8    | R               | 500  | S                     | 2500 |
| H                   | 12            | 8    | R               | 500  | S                     | 2500 |

| Total Tape Thickness — K max |                                    |
|------------------------------|------------------------------------|
| Case size reference          | TAZ<br>Millimeters (Inches)<br>DIM |
| A                            | 2.0 (0.079)                        |
| B                            | 4.0 (0.157)                        |
| D                            | 4.0 (0.157)                        |
| E                            | 4.0 (0.157)                        |
| F                            | 4.0 (0.157)                        |
| G                            | 4.0 (0.157)                        |
| H                            | 4.0 (0.157)                        |

| Code           | 8mm Tape             |                                | 12mm Tape            |                                |
|----------------|----------------------|--------------------------------|----------------------|--------------------------------|
| P*             | 4±0.1<br>or<br>8±0.1 | (0.157±0.004)<br>(0.315±0.004) | 4±0.1<br>or<br>8±0.1 | (0.157±0.004)<br>(0.315±0.004) |
| G              | 0.75 min             | (0.03 min)                     | 0.75 min             | (0.03 min)                     |
| F              | 3.5±0.04             | (0.138±0.002)                  | 5.5±0.05             | (0.22±0.002)                   |
| E              | 1.75±0.1             | (0.069±0.004)                  | 1.75±0.1             | (0.069±0.004)                  |
| W              | 8±0.3                | (0.315±0.012)                  | 12±0.3               | (0.472±0.012)                  |
| P <sub>2</sub> | 2±0.05               | (0.079±0.002)                  | 2±0.05               | (0.079±0.002)                  |
| P <sub>0</sub> | 4±0.1                | (0.157±0.004)                  | 4±0.1                | (0.157±0.004)                  |
| D              | 1.5±0.1<br>-0        | (0.059±0.004)<br>(-0)          | 1.5±0.1<br>-0        | (0.059±0.004)<br>(-0)          |
| D <sub>1</sub> | 1.0 min              | (0.039 min)                    | 1.5 min              | (0.059 min)                    |

\*See taping suffix tables for actual P dimension (component pitch).

### TAPE SPECIFICATION

Tape dimensions comply to EIA RS 481 A  
Dimensions A<sub>0</sub> and B<sub>0</sub> of the pocket and the tape thickness, K, are dependent on the component size.

Tape materials do not affect component solderability during storage.

Carrier Tape Thickness <0.4mm





**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331