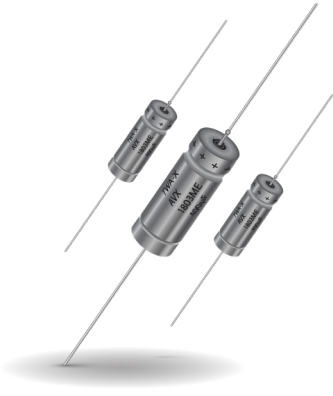


TWA-X Series

High Temperature – COTS-Plus 230°C Wet Electrolytic Tantalum Capacitor



The TWA-X series represents a high temperature version of conventional wet electrolytic tantalum capacitors that are designed for use at 230°C. High capacitance cathode system allows high level of CV (Capacitance/Voltage) in standard case sizes.

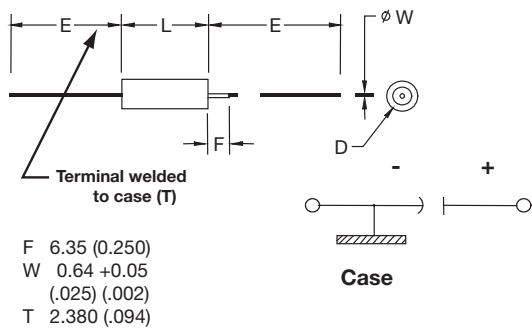
Selected values of the TWA-X are capable of up to 500 hours of operation at extreme temperatures with the applicable derated voltage.

Mechanical testing being conducted in accordance to MIL-STD- 202, High Frequency vibration - method 204, test condition "D" Mechanical Shock Test - method 213, test condition "I".

This design includes a welded tantalum can and header assembly that provides a hermetic seal to withstand also harsh shock and vibration requirements.

Contact the factory for additional options for customized component design.

OUTLINE DIMENSIONS



CASE DIMENSIONS: millimeters (inches)

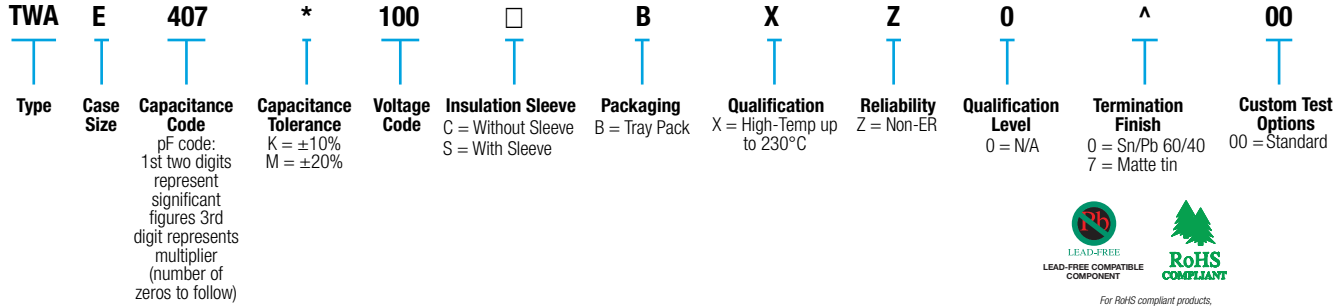
| DLA Case Size | AVX Case Size | L | D Without Insulating Sleeve ±0.41 (0.016) | D With Insulating Sleeve Max | E |
|---------------|---------------|--------------------------------|--|---------------------------------|---------------|
| T4 | E | +0.79 (0.031) -0.41 (0.016) | 9.52 (0.375) | 10.31 (0.406) | ±6.35 (0.250) |

TWA-X Series

High Temperature – COTS-Plus 230°C Wet Electrolytic Tantalum Capacitor

HOW TO ORDER

AVX PART NUMBER:



RIPPLE CURRENT MULTIPLIERS vs. Frequency, temperature and applied voltage^{1/2/}

| Frequency of Applied Ripple Current | Ambient Still Air Temperature (°C) | 120Hz | | | | 800Hz | | | | 1kHz | | | |
|-------------------------------------|------------------------------------|-------|------|------|------|-------|------|------|------|------|------|------|------|
| | | ≤55 | 85 | 105 | 125 | ≤55 | 85 | 105 | 125 | ≤55 | 85 | 105 | 125 |
| % of 85°C Rated | 100% | 0.60 | 0.39 | – | – | 0.71 | 0.43 | – | – | 0.72 | 0.45 | – | – |
| | 90% | 0.60 | 0.46 | – | – | 0.71 | 0.55 | – | – | 0.72 | 0.55 | – | – |
| | 80% | 0.60 | 0.52 | 0.35 | – | 0.71 | 0.62 | 0.42 | – | 0.72 | 0.62 | 0.42 | – |
| Peak Voltage | 70% | 0.60 | 0.58 | 0.44 | – | 0.71 | 0.69 | 0.52 | – | 0.72 | 0.70 | 0.52 | – |
| | 66-2/3% | 0.60 | 0.60 | 0.46 | 0.27 | 0.71 | 0.71 | 0.55 | 0.32 | 0.72 | 0.72 | 0.55 | 0.32 |

| Frequency of Applied Ripple Current | Ambient Still Air Temperature (°C) | 10kHz | | | | 40kHz | | | | 100kHz | | | |
|-------------------------------------|------------------------------------|-------|------|------|------|-------|------|------|------|--------|------|------|------|
| | | ≤55 | 85 | 105 | 125 | ≤55 | 85 | 105 | 125 | ≤55 | 85 | 105 | 125 |
| % of 85°C Rated | 100% | 0.88 | 0.55 | – | – | 1.00 | 0.63 | – | – | 1.10 | 0.69 | – | – |
| | 90% | 0.88 | 0.67 | – | – | 1.00 | 0.77 | – | – | 1.10 | 0.85 | – | – |
| | 80% | 0.88 | 0.76 | 0.52 | – | 1.00 | 0.87 | 0.59 | – | 1.10 | 0.96 | 0.65 | – |
| Peak Voltage | 70% | 0.88 | 0.85 | 0.64 | – | 1.00 | 0.97 | 0.73 | – | 1.10 | 1.07 | 0.80 | – |
| | 66-2/3% | 0.88 | 0.88 | 0.68 | 0.40 | 1.00 | 1.00 | 0.77 | 0.45 | 1.10 | 1.10 | 0.85 | 0.50 |

1/At 125°C the rated voltage of the capacitors decreases to 66 2/3 of the 85°C rated voltage.

2/The peak of the applied ac ripple voltage plus the applied dc voltage must not exceed the dc voltage rating of the capacitors.

TWA-X Series

High Temperature – COTS-Plus 230°C

Wet Electrolytic Tantalum Capacitor

CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

| Capacitance | | Rated Voltage DC (V_R) to 85°C | | |
|---------------|------|------------------------------------|------|------|
| μF | Code | 75V | 100V | 125V |
| 220 | 227 | E | | |
| 330 | 337 | | | E |
| 400 | 407 | | E | |
| 470 | 477 | | | |

Available Ratings

RATINGS & PART NUMBER REFERENCE

| AVX Part Number | Case Size | | Cap (μF) 25°C at 120Hz | DC Rated Voltage (V) At 85°C | ESR max (Ohms) at 120Hz | DC Leakage max (μA) | | Impedance max (Ohms) -55°C at 120Hz | Maximum Capacitance Change (%) | | | AC Ripple (mA rms) 85°C at 40kHz | 85°C Capability max. Time at 85°C (hrs) | 200°C Capability max. | | | 230°C Capability max | | |
|---------------------|-----------|-----|--|--|-------------------------------------|-------------------------------------|-----------------|--|-----------------------------------|-------|--------|---|--|--------------------------|--------------------------|------------------------------------|-------------------------|--------------------------|------------------------------------|
| | AVX | DLA | | | | +25°C | +85 & +125°C | | -55°C | +85°C | +125°C | | | Ur (V) | Timeat 200°C (hrs) | DCL@ 200°C (μA) | Ur (V) | Timeat 230°C (hrs) | DCL@ 230°C (μA) |
| TWAE227*075-BXZ0*00 | E | T4 | 220 | 75 | 1.2 | 5 | 50 | 20 | -40 | 8 | 15 | 1800 | 2000 | 45 | 2000 | 200 | 25 | 500 | 200 |
| TWAE407*100-BXZ0*00 | E | T4 | 400 | 100 | 0.8 | 10 | 150 | 10 | -50 | 10 | 35 | 4100 | 2000 | 60 | 2000 | 1000 | 25 | 500 | 1000 |
| TWAE337*125-BXZ0*00 | E | T4 | 330 | 125 | 0.8 | 10 | 60 | 10 | -45 | 15 | 25 | 3600 | 500 | 75 | 500 | 1000 | 40 | 500 | 1000 |

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5RMS with DC bias of 2.2V. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the rights to supply higher voltage rating in the same case size, to the same reliability standards.

$$DF = 2\pi f C \times (ESR)$$

$$2\pi = 6.28$$

$$f = 120\text{Hz}$$

C = Actual measured capacitance

ESR = Actual measured ESR