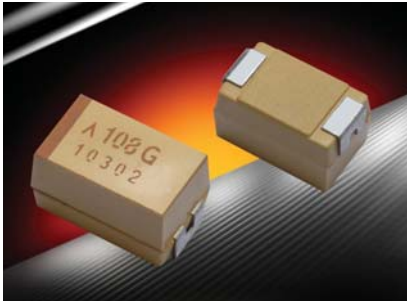


TCM Series



Tantalum Solid Electrolytic Chip Capacitors Conductive Polymer Multianode



FEATURES

- Conductive polymer multianode
- Extremely Low ESR
- Reduced ignition failure mode
- 3x reflow 260°C compatible
- Volumetric efficiency
- High frequency capacitance retention

APPLICATIONS

- Telecommunication routers
- Basestations with high power DC/DCs



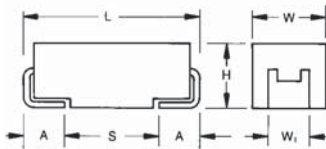
Elektra Award 2010



LEAD-FREE
LEAD-FREE COMPATIBLE
COMPONENT

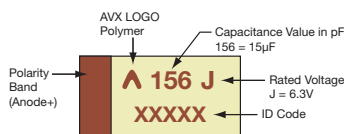


RoHS
COMPLIANT



MARKING

E CASE



CASE DIMENSIONS: millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W±0.20 (0.008) -0.10 (0.004) | H±0.20 (0.008) -0.10 (0.004) | W ₁ ±0.20 (0.008) | A±0.30 (0.012) -0.20 (0.008) | S Min. |
|------|----------|------------|----------------|---------------------------------|---------------------------------|------------------------------|---------------------------------|--------------|
| E | 2917 | 7343-43 | 7.30 (0.287) | 4.30 (0.169) | 4.10 (0.162) | 2.40 (0.094) | 1.30 (0.051) | 4.40 (0.173) |

W₁ dimension applies to the termination width for A dimensional area only.

HOW TO ORDER

TCM

Type

E

Case Size
See table above

108

Capacitance Code
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M

Tolerance
M=±20%

004

Rated DC Voltage
004=4Vdc
006=6.3Vdc
010=10Vdc
035=35Vdc

R

Packaging
R = Pure Tin 7" Reel
S = Pure Tin 13" Reel

0010

ESR in mΩ

TECHNICAL SPECIFICATIONS

| | | | | | | |
|------------------------------------|----------------------------------------------------------------------------------------------|-----|-----|----|----|--|
| Technical Data: | All technical data relate to an ambient temperature of +25°C | | | | | |
| Capacitance Range: | 22 µF to 1000 µF | | | | | |
| Capacitance Tolerance: | ±20% | | | | | |
| Leakage Current DCL: | 0.1CV | | | | | |
| Rated Voltage (V _R) | ≤ +85°C: | 4 | 6.3 | 10 | 35 | |
| Category Voltage (V _C) | ≤ +105°C: | 3.2 | 5 | 8 | 28 | |
| Surge Voltage (V _S) | ≤ +85°C: | 5.2 | 8 | 13 | 46 | |
| Surge Voltage (V _S) | ≤ +105°C: | 4 | 6 | 10 | 35 | |
| Temperature Range: | -55°C to +105°C | | | | | |
| Reliability: | 1% per 1000 hours at 85°C, V _R with 0.1Ω/V series impedance, 60% confidence level | | | | | |

Tantalum Solid Electrolytic Chip Capacitors Conductive Polymer Multianode

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance | | Rated Voltage DC (V _R) to 85°C | | | |
|-------------|------|--------------------------------------------|----------|----------|---------|
| µF | Code | 4V (G) | 6.3V (J) | 10V (A) | 35V (V) |
| 22 | 226 | | | | E(25) |
| 33 | 336 | | | | |
| 47 | 476 | | | | |
| 68 | 686 | | | | |
| 100 | 107 | | | | |
| 150 | 157 | | | | |
| 220 | 227 | | | | |
| 330 | 337 | | | E(10,15) | |
| 470 | 477 | | | | |
| 680 | 687 | | E(12) | | |
| 1000 | 108 | E(10,12) | | | |
| 1500 | 158 | | | | |

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

*Codes under development – subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

RATINGS & PART NUMBER REFERENCE

| AVX Part No. | Case Size | Cap (µF) | Rated Voltage (V) | Rated Temp. (°C) | Category Voltage (V) | Category Temp. (°C) | DCL (µA) Max. | DF % Max. | ESR Max. (mΩ) @ 100kHz | MSL | 100kHz RMS Current (mA) | | | Product Category |
|------------------------|-----------|----------|-------------------|------------------|----------------------|---------------------|---------------|-----------|------------------------|-----|-------------------------|------|-------|------------------|
| | | | | | | | | | | | 25°C | 85°C | 105°C | |
| 4 Volt @ 85°C | | | | | | | | | | | | | | |
| TCME108M004#0010 | E | 1000 | 4 | 85 | 3.2 | 105 | 400 | 8 | 10 | 3 | 6400 | 4500 | 2900 | 105°C |
| TCME108M004#0012 | E | 1000 | 4 | 85 | 3.2 | 105 | 400 | 8 | 12 | 3 | 5800 | 4100 | 2600 | 105°C |
| 6.3 Volt @ 85°C | | | | | | | | | | | | | | |
| TCME687M006#0012 | E | 680 | 6.3 | 85 | 5 | 105 | 408 | 8 | 12 | 3 | 5800 | 4100 | 2600 | 105°C |
| 10 Volt @ 85°C | | | | | | | | | | | | | | |
| TCME337M010#0010 | E | 330 | 10 | 85 | 8 | 105 | 330 | 8 | 10 | 3 | 6400 | 4500 | 2900 | 105°C |
| TCME337M010#0015 | E | 330 | 10 | 85 | 8 | 105 | 330 | 8 | 15 | 3 | 5200 | 3600 | 2300 | 105°C |
| 35 Volt @ 85°C | | | | | | | | | | | | | | |
| TCME226M035#0025 | E | 22 | 35 | 85 | 28 | 105 | 77 | 8 | 25 | 3 | 4000 | 2800 | 1800 | 105°C |

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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

ESR allowed to move up to 1.25 times catalog limit post mounting.

For typical weight and composition see page 162.

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.

Tantalum Solid Electrolytic Chip Capacitors Conductive Polymer Multianode

PRODUCT CATEGORY 105°C

| TEST | 105°C series (Temperature range -55°C to +105°C) | | | | | | | | | | |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|------------------------|----------------------------------|-----------|-------|-----------|----------|-------|--|
| | Condition | | | Characteristics | | | | | | | |
| Endurance | Determine after application of rated voltage for 2000 +48/-0 hours at 85±2°C and then leaving 1-2 hours at room temperature. Also determine after application of 105°C temperature, category voltage for 2000 +48/-0 hours and then leaving 1-2 hours at room temperature. Power supply impedance to be ≤3Ω. | | | Visual examination | no visible damage | | | | | | |
| | | | | DCL | 1.25 x initial limit | | | | | | |
| | | | | ΔC/C | within +20/-30% of initial value | | | | | | |
| | | | | DF | 1.5 x initial limit | | | | | | |
| | | | | ESR | 2 x initial limit | | | | | | |
| Storage Life | 105°C, 0V, 2000h | | | Visual examination | no visible damage | | | | | | |
| | | | | DCL ($V_R \leq 75V$) | 1.25 x initial limit | | | | | | |
| | | | | DCL ($V_R > 75V$) | 2 x initial limit | | | | | | |
| | | | | ΔC/C | within ±20% of initial value | | | | | | |
| | | | | DF | 1.5 x initial limit | | | | | | |
| | | | | ESR | 2 x initial limit | | | | | | |
| Humidity | Determine after storage without applied voltage at 65±2°C and 95±2% relative humidity for 500 hours and then recovery 1- 2 hours at room temperature. | | | Visual examination | no visible damage | | | | | | |
| | | | | DCL | 3 x initial limit | | | | | | |
| | | | | ΔC/C | within +30/-20% of initial value | | | | | | |
| | | | | DF | 1.5 x initial limit | | | | | | |
| | | | | ESR | 2 x initial limit | | | | | | |
| Temperature Stability | Step | Temperature°C | Duration(min) | | +20°C | -55°C | +20°C | +85°C | +105°C | +20°C | |
| | 1 | +20±2 | 15 | | | | | | | | |
| | 2 | -55+0/-3 | 15 | DCL | IL* | n/a | IL* | 10 x IL* | 12.5xIL* | IL* | |
| | 3 | +20±2 | 15 | ΔC/C | n/a | +0/-20% | ±5% | +20/-0% | +30/-0% | ±5% | |
| | 4 | +85+3/-0 | 15 | DF | IL* | 1.5 x IL* | IL* | 1.5 x IL* | 2xIL* | IL* | |
| | 5 | +105+3/-0 | 15 | | | | | | | | |
| | 6 | +20±2 | 15 | | | | | | | | |
| Surge Voltage | Test temperature: 105°C+3/0°C Test voltage: Category voltage at 105°C Surge voltage: 1.3 x category voltage at 105°C Series protection resistance 1000±100Ω Discharge resistance: 1000Ω Number of cycles: 1000x Cycle duration: 6 min; 30 sec charge, 5 min 30 sec discharge | | | Visual examination | no visible damage | | | | | | |
| | | | | DCL | initial limit | | | | | | |
| | | | | ΔC/C | within +20/-30% of initial value | | | | | | |
| | | | | DF | 1.25 x initial limit | | | | | | |
| | | | | | | | | | | | |

*Initial Limit



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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