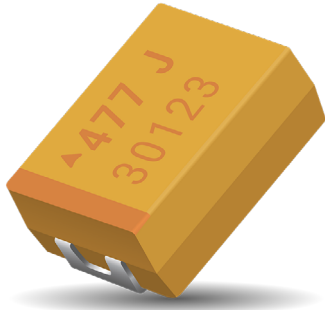


TPM Multianode

Tantalum Ultra Low ESR Capacitor



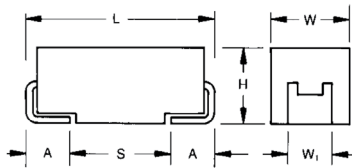
FEATURES

- Multi-anode Construction
- Super Low ESR
- 100% Surge Current Tested
- CV Range: 10-2200 μ F / 2.5-50V
- 5 Case Sizes Available
- "Mirror" Multi-anode Construction Used with D, Y Case Capacitors Reduces ESL to Half



APPLICATIONS

- High Power DC/DC General Applications



MULTIANODE CONSTRUCTION



MULTIANODE TPM D, Y LOW SELF INDUCTANCE CONSTRUCTION "MIRROR" DESIGN



MARKING

D, E, U, V, Y CASE

CASE DIMENSIONS:

millimeters (inches)

| Code | EIA Code | EIA Metric | L \pm 0.20 (0.008) | W \pm 0.20 (0.008) -0.10 (0.004) | H \pm 0.20 (0.008) -0.10 (0.004) | W \pm 0.20 (0.008) | A \pm 0.30 (0.012) -0.20 (0.008) | S Min. |
|------|----------|------------|----------------------|------------------------------------|------------------------------------|----------------------|------------------------------------|--------------|
| D | 2917 | 7343-31 | 7.30 (0.287) | 4.30 (0.169) | 2.90 (0.114) | 2.40 (0.094) | 1.30 (0.051) | 4.40 (0.173) |
| E | 2917 | 7343-43 | 7.30 (0.287) | 4.30 (0.169) | 4.10 (0.162) | 2.40 (0.094) | 1.30 (0.051) | 4.40 (0.173) |
| U | 2924 | 7361-43 | 7.30 (0.287) | 6.10 (0.240) | 4.10 (0.162) | 3.10 (0.122) | 1.30 (0.051) | 4.40 (0.173) |
| V | 2924 | 7361-38 | 7.30 (0.287) | 6.10 (0.240) | 3.55 (0.140) | 3.10 (0.122) | 1.30 (0.051) | 4.40 (0.173) |
| Y | 2917 | 7343-20 | 7.30 (0.287) | 4.30 (0.169) | 2.00 (0.079) max | 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

TPM

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
K = \pm 10%
M = \pm 20%

004

Rated DC Voltage
002=2.5Vdc
004=4Vdc
006=6.3Vdc
010=10Vdc
016=16Vdc
020=20Vdc
025=25Vdc
035=35Vdc
050=50Vdc

R

Packaging
R = Pure Tin 7" Reel
S = Pure Tin 13" Reel
H = Tin Lead 7" Reel
K = Tin Lead 13" Reel
H, K = Non RoHS
H, K = Please Contact Manufacturer

0018

ESR in m Ω

TECHNICAL SPECIFICATIONS

| | | | | | | | | | | |
|----------------------------|--|-----|-----|-----|----|----|----|----|----|----|
| Technical Data: | All technical data relate to an ambient temperature of +25°C | | | | | | | | | |
| Capacitance Range: | 10 μ F to 2200 μ F | | | | | | | | | |
| Capacitance Tolerance: | \pm 10%, \pm 20% | | | | | | | | | |
| Rated Voltage (V_R) | \leq +85°C: | 2.5 | 4 | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |
| Category Voltage (V_C) | \leq +125°C: | 1.7 | 2.7 | 4 | 7 | 10 | 13 | 17 | 23 | 33 |
| Surge Voltage (V_S) | \leq +85°C: | 3.3 | 5.2 | 8 | 13 | 20 | 26 | 32 | 46 | 65 |
| Surge Voltage (V_S) | \leq +125°C: | 2.2 | 3.4 | 5 | 8 | 13 | 16 | 20 | 28 | 40 |
| Temperature Range: | -55°C to +125°C | | | | | | | | | |
| Reliability: | 1% per 1000 hours at 85°C, V_R with 0.1 Ω /V series impedance, 60% confidence level | | | | | | | | | |

TPM Multianode

Tantalum Ultra Low ESR Capacitor



CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance | | Rated Voltage DC (V _R) to 85°C | | | | | | | | |
|-------------|------|--|--|--|----------------------|----------------------|----------|-------------|--------------------|---------------|
| µF | Code | 2.5V (e) | 4V (G) | 6.3V (J) | 10V (A) | 16V (C) | 20V (D) | 25V (E) | 35V (V) | 50V (T) |
| 6.8 | 685 | | | | | | | | | |
| 10 | 106 | | | | | | | | | D(140)/E(120) |
| 15 | 156 | | | | | | | | | E(75,100) |
| 22 | 226 | | | | | | | | D(70) E(60,100) | E(75,100) |
| 33 | 336 | | | | | | | D(65) | E(50,65) | |
| 47 | 476 | | | | | D(100) | D(45,55) | D(55)/E(65) | E(55,65) | |
| 68 | 686 | | | | | D(40,50) | | E(45,55) | | |
| 100 | 107 | | | | Y(45) ^(M) | D(40,50) | E(35,45) | E(45,60) | | |
| 150 | 157 | | | | Y(45) ^(M) | E(30,40) | E(35) | | | |
| 220 | 227 | | | Y(30) ^(M) | D(35) | E(25,40) U(30,40) | | | | |
| 330 | 337 | | D(25,35) | D(25,35) | D(35)/E(23,35) | E(50) | | | | |
| 470 | 477 | | D(25,35) | D(30) E(18,23,30) | E(23,30) U(23,30) | | | | | |
| 680 | 687 | | D(25)/E(18,23) | E(18,23) U(18,23)/V(23) | | | | | | |
| 1000 | 108 | D(25) | D(25,45) E(18,23) U(18,23)/V(18) | E(25) ^(M) /V(20) ^(M) | | | | | | |
| 1500 | 158 | E(12,15,18) U(18,23) | E(15,18) | | | | | | | |
| 2200 | 228 | E(18) ^(M) | | | | | | | | |

Released ratings ^(M tolerance only), (ESR ratings in mOhms in parentheses)

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

TPM Multianode

Tantalum Ultra Low ESR Capacitor



RATINGS & PART NUMBER REFERENCE

| Part Number | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL Max. (µA) | DF Max. (%) | ESR Max. @ 100kHz (mΩ) | 100kHz RMS Current (A) | | | MSL |
|------------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|------------------------|------------------------|-------|-------|-----|
| | | | | | | | | | | 25°C | 85°C | 125°C | |
| 2.5 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD108*002#0025 | D | 1000 | 2.5 | 85 | 1.7 | 125 | 25 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPME158*002R0012 | E | 1500 | 2.5 | 85 | 1.7 | 125 | 38 | 6 | 12 | 4.743 | 4.269 | 1.897 | 3 |
| TPME158*002#0015 | E | 1500 | 2.5 | 85 | 1.7 | 125 | 38 | 6 | 15 | 4.243 | 3.818 | 1.697 | 3 |
| TPME158*002#0018 | E | 1500 | 2.5 | 85 | 1.7 | 125 | 38 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| TPMU158*002R0018 | U | 1500 | 2.5 | 85 | 1.7 | 125 | 30 | 6 | 18 | 4.048 | 3.643 | 1.619 | 3 |
| TPMU158*002R0023 | U | 1500 | 2.5 | 85 | 1.7 | 125 | 30 | 6 | 23 | 3.581 | 3.223 | 1.433 | 3 |
| TPME228M002#0018 | E | 2200 | 2.5 | 85 | 1.7 | 125 | 44 | 10 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| 4 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD337*004#0025 | D | 330 | 4 | 85 | 2.7 | 125 | 13.2 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPMD337*004#0035 | D | 330 | 4 | 85 | 2.7 | 125 | 13.2 | 8 | 35 | 2.699 | 2.429 | 1.080 | 3 |
| TPMD477*004#0025 | D | 470 | 4 | 85 | 2.7 | 125 | 18.8 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPMD477*004#0035 | D | 470 | 4 | 85 | 2.7 | 125 | 18.8 | 8 | 35 | 2.699 | 2.429 | 1.080 | 3 |
| TPMD687*004#0025 | D | 680 | 4 | 85 | 2.7 | 125 | 27.2 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPME687*004#0018 | E | 680 | 4 | 85 | 2.7 | 125 | 27 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| TPME687*004#0023 | E | 680 | 4 | 85 | 2.7 | 125 | 27 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPMD108*004#0025 | D | 1000 | 4 | 85 | 2.7 | 125 | 40 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPMD108*004#0045 | D | 1000 | 4 | 85 | 2.7 | 125 | 40 | 8 | 45 | 2.380 | 2.142 | 0.952 | 3 |
| TPME108*004#0018 | E | 1000 | 4 | 85 | 2.7 | 125 | 40 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| TPME108*004#0023 | E | 1000 | 4 | 85 | 2.7 | 125 | 40 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPMU108*004R0018 | U | 1000 | 4 | 85 | 2.7 | 125 | 40 | 6 | 18 | 4.048 | 3.643 | 1.619 | 3 |
| TPMU108*004R0023 | U | 1000 | 4 | 85 | 2.7 | 125 | 40 | 6 | 23 | 3.581 | 3.223 | 1.433 | 3 |
| TPMV108*004#0018 | V | 1000 | 4 | 85 | 2.7 | 125 | 40 | 6 | 18 | 3.979 | 3.581 | 1.592 | 3 |
| TPME158*004#0015 | E | 1500 | 4 | 85 | 2.7 | 125 | 60 | 6 | 15 | 4.243 | 3.818 | 1.697 | 3 |
| TPME158*004#0018 | E | 1500 | 4 | 85 | 2.7 | 125 | 60 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| 6.3 Volt @ 85°C | | | | | | | | | | | | | |
| TPMY227M006#0030 | Y | 220 | 6.3 | 85 | 4 | 125 | 13.2 | 6 | 30 | 2.646 | 2.381 | 1.058 | 3 |
| TPMD337*006#0025 | D | 330 | 6.3 | 85 | 4 | 125 | 19.8 | 8 | 25 | 3.194 | 2.874 | 1.277 | 3 |
| TPMD337*006#0035 | D | 330 | 6.3 | 85 | 4 | 125 | 19.8 | 8 | 35 | 2.699 | 2.429 | 1.080 | 3 |
| TPMD477*006#0030 | D | 470 | 6.3 | 85 | 4 | 125 | 28.2 | 8 | 30 | 2.915 | 2.624 | 1.166 | 3 |
| TPME477*006#0018 | E | 470 | 6.3 | 85 | 4 | 125 | 28 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| TPME477*006#0023 | E | 470 | 6.3 | 85 | 4 | 125 | 28 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPME477*006#0030 | E | 470 | 6.3 | 85 | 4 | 125 | 28 | 6 | 30 | 3.000 | 2.700 | 1.200 | 3 |
| TPME687*006#0018 | E | 680 | 6.3 | 85 | 4 | 125 | 41 | 6 | 18 | 3.873 | 3.486 | 1.549 | 3 |
| TPME687*006#0023 | E | 680 | 6.3 | 85 | 4 | 125 | 41 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPMU687*006R0018 | U | 680 | 6.3 | 85 | 4 | 125 | 41 | 6 | 18 | 4.048 | 3.643 | 1.619 | 3 |
| TPMU687*006R0023 | U | 680 | 6.3 | 85 | 4 | 125 | 41 | 6 | 23 | 3.581 | 3.223 | 1.433 | 3 |
| TPMV687*006#0023 | V | 680 | 6.3 | 85 | 4 | 125 | 41 | 6 | 23 | 3.520 | 3.168 | 1.408 | 3 |
| TPME108M006#0025 | E | 1000 | 6.3 | 85 | 4 | 125 | 63 | 8 | 25 | 3.286 | 2.958 | 1.315 | 3 |
| TPMV108M006#0020 | V | 1000 | 6.3 | 85 | 4 | 125 | 63 | 8 | 20 | 3.775 | 3.397 | 1.510 | 3 |
| 10 Volt @ 85°C | | | | | | | | | | | | | |
| TPMY107M010#0045 | Y | 100 | 10 | 85 | 7 | 125 | 10 | 8 | 45 | 2.160 | 1.944 | 0.864 | 3 |
| TPMY157M010#0045 | Y | 150 | 10 | 85 | 7 | 125 | 15 | 8 | 45 | 2.160 | 1.944 | 0.864 | 3 |
| TPMD227*010#0035 | D | 220 | 10 | 85 | 7 | 125 | 22 | 8 | 35 | 2.699 | 2.429 | 1.080 | 3 |
| TPMD337*010#0035 | D | 330 | 10 | 85 | 7 | 125 | 33 | 8 | 35 | 2.699 | 2.429 | 1.080 | 3 |
| TPME337*010#0023 | E | 330 | 10 | 85 | 7 | 125 | 33 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPME337*010#0035 | E | 330 | 10 | 85 | 7 | 125 | 33 | 6 | 35 | 2.777 | 2.500 | 1.111 | 3 |
| TPME477*010#0023 | E | 470 | 10 | 85 | 7 | 125 | 47 | 6 | 23 | 3.426 | 3.084 | 1.370 | 3 |
| TPME477*010#0030 | E | 470 | 10 | 85 | 7 | 125 | 47 | 6 | 30 | 3.000 | 2.700 | 1.200 | 3 |
| TPMU477*010R0023 | U | 470 | 10 | 85 | 7 | 125 | 47 | 8 | 23 | 3.581 | 3.223 | 1.433 | 3 |
| TPMU477*010R0030 | U | 470 | 10 | 85 | 7 | 125 | 47 | 8 | 30 | 3.136 | 2.822 | 1.254 | 3 |
| 16 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD476*016#0100 | D | 47 | 16 | 85 | 10 | 125 | 7.5 | 8 | 100 | 1.597 | 1.437 | 0.639 | 3 |
| TPMD686*016#0040 | D | 68 | 16 | 85 | 10 | 125 | 10.9 | 8 | 40 | 2.525 | 2.272 | 1.010 | 3 |
| TPMD686*016#0050 | D | 68 | 16 | 85 | 10 | 125 | 10.9 | 8 | 50 | 2.258 | 2.032 | 0.903 | 3 |
| TPMD107*016#0040 | D | 100 | 16 | 85 | 10 | 125 | 16 | 8 | 40 | 2.525 | 2.272 | 1.010 | 3 |
| TPMD107*016#0050 | D | 100 | 16 | 85 | 10 | 125 | 16 | 8 | 50 | 2.258 | 2.032 | 0.903 | 3 |
| TPME157*016#0030 | E | 150 | 16 | 85 | 10 | 125 | 24 | 6 | 30 | 3.000 | 2.700 | 1.200 | 3 |
| TPME157*016#0040 | E | 150 | 16 | 85 | 10 | 125 | 24 | 6 | 40 | 2.598 | 2.338 | 1.039 | 3 |
| TPME227*016#0025 | E | 220 | 16 | 85 | 10 | 125 | 35 | 6 | 25 | 3.286 | 2.958 | 1.315 | 3 |
| TPME227*016#0040 | E | 220 | 16 | 85 | 10 | 125 | 35 | 6 | 40 | 2.598 | 2.338 | 1.039 | 3 |
| TPMU227*016R0030 | U | 220 | 16 | 85 | 10 | 125 | 35 | 8 | 30 | 3.136 | 2.822 | 1.254 | 3 |
| TPMU227*016R0040 | U | 220 | 16 | 85 | 10 | 125 | 35 | 8 | 40 | 2.716 | 2.444 | 1.086 | 3 |
| TPME337*016#0050 | E | 330 | 16 | 85 | 10 | 125 | 52.8 | 10 | 50 | 2.324 | 2.091 | 0.930 | 3 |
| 20 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD476*020#0045 | D | 47 | 20 | 85 | 13 | 125 | 9.4 | 8 | 45 | 2.380 | 2.142 | 0.952 | 3 |
| TPMD476*020#0055 | D | 47 | 20 | 85 | 13 | 125 | 9.4 | 8 | 55 | 2.153 | 1.938 | 0.861 | 3 |
| TPME107*020#0035 | E | 100 | 20 | 85 | 13 | 125 | 20 | 6 | 35 | 2.777 | 2.500 | 1.111 | 3 |
| TPME107*020#0045 | E | 100 | 20 | 85 | 13 | 125 | 20 | 6 | 45 | 2.449 | 2.205 | 0.980 | 3 |
| TPME157*020#0035 | E | 150 | 20 | 85 | 13 | 125 | 30 | 10 | 35 | 2.777 | 2.500 | 1.111 | 3 |

TPM Multianode

Tantalum Ultra Low ESR Capacitor



RATINGS & PART NUMBER REFERENCE

| Part Number | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL Max. (µA) | DF Max. (%) | ESR Max. @ 100kHz (mΩ) | 100kHz RMS Current (A) | | | MSL |
|-----------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|------------------------|------------------------|-------|-------|-----|
| | | | | | | | | | | 25°C | 85°C | 125°C | |
| 25 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD336*025#0065 | D | 33 | 25 | 85 | 17 | 125 | 8.3 | 8 | 65 | 1.981 | 1.783 | 0.792 | 3 |
| TPMD476*025#0055 | D | 47 | 25 | 85 | 17 | 125 | 11.8 | 8 | 55 | 2.153 | 1.938 | 0.861 | 3 |
| TPME476*025#0065 | E | 47 | 25 | 85 | 17 | 125 | 11.8 | 6 | 65 | 2.038 | 1.834 | 0.815 | 3 |
| TPME686*025#0045 | E | 68 | 25 | 85 | 17 | 125 | 17 | 6 | 45 | 2.449 | 2.205 | 0.980 | 3 |
| TPME686*025#0055 | E | 68 | 25 | 85 | 17 | 125 | 17 | 6 | 55 | 2.216 | 1.994 | 0.886 | 3 |
| TPME107*025#0045 | E | 100 | 25 | 85 | 17 | 125 | 25 | 14 | 45 | 2.449 | 2.205 | 0.980 | 3 |
| TPME107*025#0060 | E | 100 | 25 | 85 | 17 | 125 | 25 | 14 | 60 | 2.121 | 1.909 | 0.849 | 3 |
| 35 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD226*035#0070 | D | 22 | 35 | 85 | 23 | 125 | 7.7 | 8 | 70 | 1.909 | 1.718 | 0.763 | 3 |
| TPME226*035#0060 | E | 22 | 35 | 85 | 23 | 125 | 8 | 6 | 60 | 2.121 | 1.909 | 0.849 | 3 |
| TPME226*035#0100 | E | 22 | 35 | 85 | 23 | 125 | 8 | 6 | 100 | 1.643 | 1.479 | 0.657 | 3 |
| TPME336*035#0050 | E | 33 | 35 | 85 | 23 | 125 | 12 | 6 | 50 | 2.324 | 2.091 | 0.930 | 3 |
| TPME336*035#0065 | E | 33 | 35 | 85 | 23 | 125 | 12 | 6 | 65 | 2.038 | 1.834 | 0.815 | 3 |
| TPME476*035#0055 | E | 47 | 35 | 85 | 23 | 125 | 16 | 6 | 55 | 2.216 | 1.994 | 0.886 | 3 |
| TPME476*035#0065 | E | 47 | 35 | 85 | 23 | 125 | 16 | 6 | 65 | 2.038 | 1.834 | 0.815 | 3 |
| 50 Volt @ 85°C | | | | | | | | | | | | | |
| TPMD106*050#0140 | D | 10 | 50 | 85 | 33 | 125 | 5 | 8 | 140 | 1.350 | 1.215 | 0.540 | 3 |
| TPME106*050#0120 | E | 10 | 50 | 85 | 33 | 125 | 5 | 6 | 120 | 1.500 | 1.350 | 0.600 | 3 |
| TPME156*050#0075 | E | 15 | 50 | 85 | 33 | 125 | 7.5 | 6 | 75 | 1.897 | 1.708 | 0.759 | 3 |
| TPME156*050#0100 | E | 15 | 50 | 85 | 33 | 125 | 7.5 | 6 | 100 | 1.643 | 1.479 | 0.657 | 3 |
| TPME226*050#0075 | E | 22 | 50 | 85 | 33 | 125 | 11 | 8 | 75 | 1.897 | 1.708 | 0.759 | 3 |
| TPME226*050#0100 | E | 22 | 50 | 85 | 33 | 125 | 11 | 8 | 100 | 1.643 | 1.479 | 0.657 | 3 |

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, 0.5V RMS with a maximum DC bias of 2.2 volts.

DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 259.

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

QUALIFICATION TABLE

| TEST | TPM series (Temperature range -55°C to +125°C) | | | | | | | | | |
|-----------------------|---|---------------|---------------|--------------------|------------------------------|-----------|------------|------------|------------|------------|
| | Condition | | | Characteristics | | | | | | |
| Endurance | Apply rated voltage (Ur) at 85°C and / or category-voltage (Uc) at 125°C for 2000 hours through a circuit impedance of ≤0.1Ω/V. Stabilize at room temperature for 1-2 hours before measuring. | | | Visual examination | no visible damage | | | | | |
| | | | | DCL | initial limit | | | | | |
| | | | | ΔC/C | within ±10% of initial value | | | | | |
| | | | | DF | initial limit | | | | | |
| | | | | ESR | 1.25 x initial limit | | | | | |
| Humidity | Store at 65°C and 95% relative humidity for 500 hours, with no applied voltage. Stabilize at room temperature and humidity for 1-2 hours before measuring. | | | Visual examination | no visible damage | | | | | |
| | | | | DCL | 1.5 x initial limit | | | | | |
| | | | | ΔC/C | within ±10% of initial value | | | | | |
| | | | | DF | 1.2 x initial limit | | | | | |
| | | | | ESR | 1.25 x initial limit | | | | | |
| Temperature Stability | Step | Temperature°C | Duration(min) | | +20°C | -55°C | +20°C | +85°C | +125°C | +20°C |
| | 1 | +20 | 15 | | | | | | | |
| | 2 | -55 | 15 | DCL | IL* | n/a | IL* | 10 x IL* | 12.5 x IL* | IL* |
| | 3 | +20 | 15 | ΔC/C | n/a | +0/-10% | ±5% | +10/-0% | +12/-0% | ±5% |
| | 4 | +85 | 15 | DF | IL* | 1.5 x IL* | IL* | 1.5 x IL* | 2 x IL* | IL* |
| | 5 | +125 | 15 | ESR | 1.25 x IL* | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* |
| | 6 | +20 | 15 | | | | | | | |
| Surge Voltage | Apply 1.3x category voltage (Uc) at 125°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000Ω | | | Visual examination | no visible damage | | | | | |
| | | | | DCL | initial limit | | | | | |
| | | | | ΔC/C | within ±5% of initial value | | | | | |
| | | | | DF | initial limit | | | | | |
| | | | | ESR | 1.25 x initial limit | | | | | |
| Mechanical Shock | MIL-STD-202, Method 213, Condition C | | | Visual examination | no visible damage | | | | | |
| | | | | DCL | initial limit | | | | | |
| | | | | ΔC/C | within ±5% of initial value | | | | | |
| | | | | DF | initial limit | | | | | |
| | | | | ESR | initial limit | | | | | |
| Vibration | MIL-STD-202, Method 204, Condition D | | | Visual examination | no visible damage | | | | | |
| | | | | DCL | initial limit | | | | | |
| | | | | ΔC/C | within ±5% of initial value | | | | | |
| | | | | DF | initial limit | | | | | |
| | | | | ESR | initial limit | | | | | |

*Initial Limit



The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

TPM Multianode Tantalum Ultra Low ESR Capacitor

SOLID ELECTROLYTIC CAPACITOR ROADMAP



FIVE CAPACITOR CONSTRUCTION STYLES



SERIES LINE UP : CONVENTIONAL SMD MnO₂



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