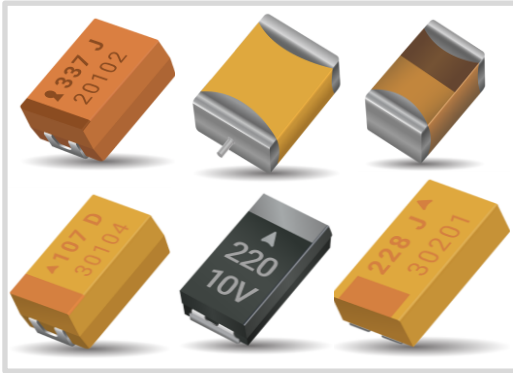


Tantalum MnO₂

TAJ, TMJ, TPS, TRJ, TRM, TPM, THJ, TLJ, TLN, TAC, TLC, TPC
TC, TCT, TCS, NOJ, NOS,
F72, F75, F91, F92, F93, F95, F97, AUDIO F95, F98

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Basic Overview

Voltage range is typically from 2.5 to 50V and the case size offering has grown from basic four EIA case sizes (A,B,C,D) to more than fifteen in order to better meet specific height or space limited design requirements. The other case sizes includes larger cases to offer capacitance up to 3300 μ F, small case sizes with high CV in a minimum footprint and low profile packages with heights as low as 0.5mm. The strength of the conventional MnO₂ technology is in the robustness against thermomechanical load, temperature and DC Bias stability, voltage range up to 50V and very good steady state reliability.

Markets

Consumer, Industrial, Automotive, Medical, Aerospace

Applications

- Digital equipment
- Audio/video signal filtering
- Power supply
- ECU, Tire pressure monitoring
- Hearing Aids

Top Selling Points

- Wide capacity and voltage range
- 100% Surge Screening
- Wide temperature range -55/+200°C
- Volumetric efficiency

Unique Feature

- Stable electrical parameters
- Low noise/limited piezo effect
- High long term reliability
- Unlimited lifetime
- Mechanical robustness


Tantalum MnO₂

TAJ, TMJ, TPS, TRJ, TRM, TPM, THJ, TLJ, TLN, TAC, TLC, TPC
TC, TCT, TCS, NOJ, NOS,
F72, F75, F91, F92, F93, F95, F97, AUDIO F95, F98

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TAJ Type	C Case Size See table above	106 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	M Tolerance K=±10% M=±20%	035 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 A = Gold Plating 7" Reel B = Gold Plating 13" Reel H = Tin Lead 7" Reel (Contact Manufacturer) K = Tin Lead 13" Reel (Contact Manufacturer) H, K = Non RoHS	NJ Specification Suffix NJ = Standard Suffix	- Additional characters may be added for special requirements V = Dry pack Option (selected codes only)
TPS Type	C Case Size See table above	107 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	M Tolerance K = ±10% M = ±20%	010 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 A = Gold Plating 7" Reel B = Gold Plating 13" Reel H = Tin Lead 7" Reel (Contact Manufacturer) K = Tin Lead 13" Reel (Contact Manufacturer) H, K = Non RoHS	0100 ESR in mΩ	- Additional characters may be added for special requirements V = Dry pack Option (selected codes only)
F93 Type	1A Rated Voltage	106 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	M Tolerance K = ±10% M = ±20%	A Case Size See table above	 Packaging See Tape & Reel Packaging Section		

Catalogue

Latest electronic version of **"Polymer, Tantalum and Niobium Oxide Capacitors"** catalogue, that includes the F-series datasheets, available on the KYOCERA AVX web sites. Click [here](#) to download.

NORTH AMERICA
Tel: +1 864-967-2150

CENTRAL AMERICA
Tel: +55 11-46881960

EUROPE
Tel: +44 1276-697000

ASIA
Tel: +65 6286-7555

JAPAN
Tel: +81 740-321250

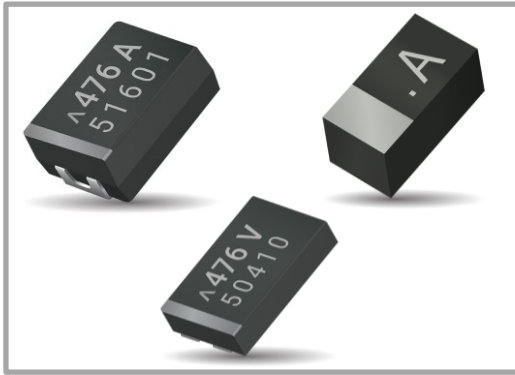
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Conductive Polymer

TCJ, TCM, TCN, J-CAP™, TCO, TCQ, F38
TCTO, TCSO

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Basic Overview

One of the major contributors to ESR in a capacitor is the second electrode. The conventional tantalum capacitor uses MnO₂ as the 2nd electrode with a relatively high resistivity which, in tantalum polymer capacitors, is replaced by an organic material – conductive polymer. This replacement leads to a significant reduction of ESR, especially at frequencies above 100kHz. Typically the ESR value is reduced in polymer technology by about a quarter compared to the MnO₂ electrode.

Markets

Telecommunications, Consumer, Networking, Industrial, Automotive

Applications

- Telecommunications
- DC/DC converters
- LED Lighting drivers
- LCD TV
- SSD

Top Selling Points

- Conductive polymer electrode
- Reduces ignition failure mode
- Lower ESR
- 3x reflow 260°C compatible
- CV range 0.47 – 1500µF / 2.5 – 125V

Unique Features

- High voltage usage with low derating (10-20%)
- Wide temperature range –55/up to +125°C
- Stable parameters over temperature and voltage range
- High inrush and ripple current capability
- Lower drop of capacitance with higher frequency

Conductive Polymer

TCJ, TCM, TCN, J-CAP™, TCO, TCQ, F38
TCTO, TCSO

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How to Order

<p>TCJ Type</p>	<p>A Case Size See table above</p>	<p>226 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)</p>	<p>M Tolerance M = ±20%</p>	<p>004 Rated DC Voltage</p> <p>002 = 2.5Vdc 004 = 4Vdc 006 = 6.3Vdc 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc 025 = 25Vdc</p> <p>035 = 35Vdc 050 = 50Vdc 063 = 63Vdc 075 = 75Vdc 100 = 100Vdc 125 = 125Vdc</p>	<p>R Packaging R = Pure Tin 7" Reel S = Pure Tin 13" Reel</p>	<p>0300 ESR in mΩ</p>	<p>E Additional Character E = Black resin (It is possible to order PN without "E" as identical product)</p>			
<p>F38 Type</p>	<p>1A Rated Voltage</p>	<p>225 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)</p>	<p>M Tolerance M = ±20%</p>	<p>M Case Size See table above</p>	<p>Packaging</p> <table border="1"> <tr> <th>Reel Dia (ø180)</th> <th>Tape Width (mm)</th> </tr> <tr> <td>A</td> <td>8</td> </tr> </table>	Reel Dia (ø180)	Tape Width (mm)	A	8	<p>Special Code</p> <p>AXE = Rated temperature 60°C and H dimension 1.0mm Max. AXEH3 = Rated temperature 60°C and H dimension 1.0mm Max., Low ESR LZT = Rated temperature 60°C LZTH1 = Rated temperature 60°C, Low ESR AH1, AH2, AH3 = Low ESR HBZ = H dimension 0.8mm Max.</p>
Reel Dia (ø180)	Tape Width (mm)									
A	8									

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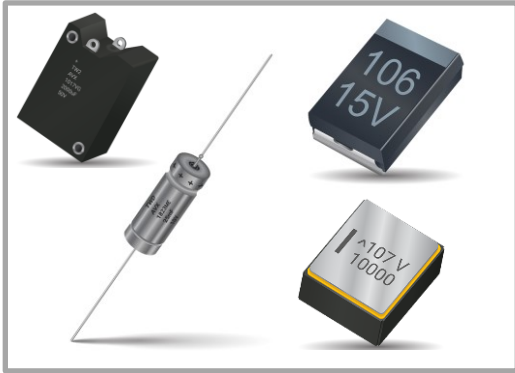


HighRel Tantalum

TAJ ESCC, TAJ CECC, TES, TBJ, TBM, T4J, T4C, TCB, TCS, TCD, TAZ, T4Z, TBC, TCH, THH, DLA 93026, TWA, TWA-X, TWA-Y, TWC, TWD, TWM, TWS DLA 13017, CWR09/11/19/29, TCP

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Basic Overview

As tantalum technology continues to develop, we are able to offer extended ratings providing more downsizing opportunities, higher capacitance ratings, new case sizes and Low ESR options for critical output filtering applications. Combining this with in-line reliability grading capability for all chip capacitor series, we are able to supply these products to the most demanding applications.

Markets

Industrial, Medical, Military, Avionics, Hi-Rel

Applications

- Aerospace
- Down-hole exploration
- Avionics
- Satellites

Top Selling Points

- ESA & MIL qualified plants
- Aerospace screening options
- Dedicated space products
- Low ESR and miniature designs
- Wide temperature range -55/+230°C
- High reliability and CV
- High voltage up to 125V

Unique Features

- COTS-Plus – Weibull grade: Extended range / Low ESR Series
- ESA QPL qualified products
- DLA Drawing
- MIL QPL 55365 – (Including MIL “T” Level)
- SRC9000 Space Level
- Medical Grade

HighRel Tantalum

TAJ ESCC, TAJ CECC, TES, TBJ, TBM, T4J, T4C, TCB, TCS, TCD, TAZ, T4Z, TBC, TCH, THH, DLA 93026, TWA, TWA-X, TWA-Y, TWC, TWD, TWM, TWS DLA 13017, CWR09/11/19/29, TCP

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TCH	9	687	M	016		W	0040	#
Type	Case Size See table above	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Tolerance M = ±20%	Rated DC Voltage 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc	Rated DC Voltage 050 = 50Vdc 063 = 63Vdc 075 = 75Vdc 100 = 100Vdc	Packaging W = Waffle	ESR in mΩ	Termination C = 'J' lead C-shape (Sn/Pb) J = 'J' lead L-shape (Gold) L = 'J' lead L-shape (Sn/Pb) U = Undertab C, L = Non RoHS

Catalogue

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NORTH AMERICA

Tel: +1 864-967-2150

CENTRAL AMERICA

Tel: +55 11-46881960

EUROPE

Tel: +44 1276-697000

ASIA

Tel: +65 6286-7555

JAPAN

Tel: +81 740-321250

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Aluminum

APA, APD, APV, APZ, AHA, AHC, AEA, AEF, AEH, AEK, REA, REH, REF, RPA, PRF, RHD, RHA

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Basic Overview

Aluminium electrolytic capacitors provide high-CV performance in small packages, very low equivalent series resistance (ESR), high endurance, and compatibility with lead-free requirements. Available in 3 technologies, as conductive polymer, hybrid electrolytic and standard wet aluminium electrolytic.

Markets

Industrial and commercial

Applications

- LED
- DC/DC convertors
- Computer
- Telecom
- White goods
- Coupling / Decoupling
- Power Hold Up

Top Selling Points

- Product Range
- One Stop Capacitor Supplier (see Kyocera AVX entire cap product ranges)

Unique Features

- SMD V-Chip (Classic, Polymer, Hybrid)
- Super Low ESR
- RoHS Compliant
- High Voltage,
- Long Life

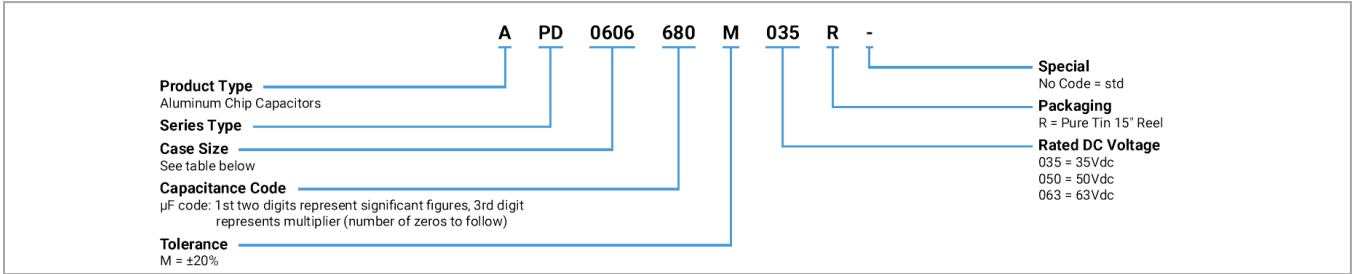
Aluminum

APA, APD, APV, APZ, AHA, AHC, AEA, AEF, AEH, AEK, REA, REH, REF, RPA, PRF, RHD, RHA

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How to Order



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