Solid Tantalum Chip Capacitors

293D SERIES - INDUSTRIAL MOLDED

The 293D series of solid molded tantalum capacitors was designed specifically for high volume, highly automated surface mount manufacturing processes. Available in six EIA standard case sizes and are optical character recognition qualified. The 293D series meets or exceeds EIA QC300801/US001 and 535BAAC. Standard lead termination finish is 100 % tin with 60 / 40 tin / lead and gold plating available as options. Voltage rating options are 4 WV_{DC} to 50 WV_{DC} with capacitances available from 0.10 µF to 680 µF. Both 10 % and 20 % tolerances are standard options. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Standard packaging of the 293D is tape and reel per EIA-481-C.

593D SERIES - LOW ESR INDUSTRIAL MOLDED

The 593D is a low ESR series of the popular 293D series, available in all case sizes with the exception of the P-case (EIA 2012). Capacitance offering range from 0.47 µF to 680 µF. Cases C, D, E are 100 % surge current tested. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Standard packaging of the 593D is also tape and reel per EIA-481-C.

CWR11 SERIES - MILITARY MOLDED

The CWR11 is MIL-PRF-55365/8 approved. Available in EIA standard sizes: 3216, 3528, 6032 and 7343, they are molded solid tantalum available with Weibull failure rates B (0.1 %/1000 h) and C (0.01 %/1000 h). Capacitance ranges from 0.1 µF to 100 µF and voltage ratings from 4 WV_{DC} to 50 WV_{DC}. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Tape and reeling per EIA-481-C is standard.

595D SERIES - COMMERCIAL CONFORMAL COATED CAPACITORS

The 595D series of conformal coated capacitors offer higher CV benefits while being drop-in replacements for molded tantalum chip caps. They are available in a wide variety of case sizes and due to their construction and design, offer flexibility, in terms of meeting unique case size/ratings applications. The 595D series offers higher cap ratings per voltage with lower ESR and ESL than their molded tantalum counterparts. Both 10 % and 20 % tolerances are standard options. These are ideal for use in desktop PC's, notebook computers, cell phones, and other handheld electronic appliances. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C.

Tape and reeling is per EIA-481-C. The series offers voltage ratings from 4 WV_{DC} to 50 WV_{DC} and capacitance from 0.10 µF to 1500 µF. 100 % tin, 60 / 40 tin / lead and gold terminations finishes are available.

594D SERIES - LOW ESR COMMERCIAL CONFORMAL COATED CAPACITORS

The 594D series of conformal coated capacitors from Vishay is the Low ESR offering of the popular 595D series. With the same ratings and ranges, both series have 100 % tin terminations finish. 60 / 40, tin / lead and gold are available as options. Both 10 % and 20 % tolerances are standard options. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Tape and reeling is per EIA-481-C. The series offers voltage ratings from 4 WV_{DC} to 50 WV_{DC} and capacitance from 0.10 µF to 1500 µF.

592D SERIES - LOW PROFILE COMMERCIAL CONFORMAL COATED CAPACITORS

The low profile 592D series offers a wider range of case sizes and capacitance values that meet the requirements of lower profile commercial electronics. Case heights range from 1.2 mm to 2.5 mm, voltage ratings from 4 WV_{DC} to 35 WV_{DC} and capacitance ranging from 1 µF to 2200 µF. Both 10 % and 20 % tolerances are standard options. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. The 592D is ideal for telecommunications, and compact portable electronics. The large capacitance X-case offers a cost effective replacement for multiple lower value capacitors within a design. 100 % tin terminations are standard.
60 / 40 tin / lead and gold are also available. Tape and reel packaging per EIA-481-C.

591D SERIES - LOW PROFILE, LOW ESR COMMERCIAL CONFORMAL COATED CAPACITORS

The 591D series of conformal coated capacitors is the Low ESR offerings of the 592D. The 591D ESR's are among the industry's lowest for capacitors meeting the footprints of EIS 535BAAC and CECC 30801 molded chips, resulting in lower power consumption, while enabling thinner more space-efficient end products. ESR's range from 0.045 Ω to 0.100 Ω at 25 °C, 100 kHz. Capacitance offerings range from 1 µF to 1000 µF. 100 % tin terminations are standard.
60 / 40 tin / lead and gold are also available. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Both 10 % and 20 % tolerances are standard options. Tape and reel packaging per EIA-481-C.

597D SERIES - ULTRA LOW ESR, MULTI-ANODE, CONFORMAL COATED CAPACITORS

The 597D series offers ESR's in the range of 13 mΩ to 35 mΩ and capacitance from 22 µF to 1500 µF. These multi-anode capacitors provide increased reliability. The 597D series is used in filtering and decoupling within DC-to-DC conversion, line cards, mother boards, and power supply applications in end product such as test equipment, PC's and base stations. Both 10 % and 20 % tolerances are standard options. Voltage ratings range from 4 WV_{DC} to 63 WV_{DC}. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. 100 % tin terminations are standard. Tape and reeling is per EIA-481-C.

195D SERIES - INDUSTRIAL CONFORMAL COATED CAPACITORS

The 195D is available in US and European case sizes 7257, 3518, 3518, 3527, and 7227 in capacitances from 0.01 µF to 330 µF. Voltage ratings range from 4 WV_{DC} to 50 WV_{DC}, making the 195D suitable for telecommunications, computing and electronic appliances. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Termination finish options include gold and 60 / 40 solder plating with 100 % tin as standard. Tape and reeling is per EIA-481-C.

194D SERIES - INDUSTRIAL CONFORMAL COATED CAPACITORS

The 194D series has a minimal footprint case size range while offering capacitance from 0.1 µF to 12 µF. Both 10 % and 20 % tolerances are standard options. Voltage ratings range from 4 WV_{DC} to 50 WV_{DC}. Lead finish options include gold, 60 / 40 electroplated and hot solder dip finishes. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Tape and reeling is per EIA-481-C.

695D SERIES - INDUSTRIAL CONFORMAL COATED CAPACITORS

The 695D series is pad-compatible with the 194D and MIL-C-55365/4 (CWR06). With capacitor values from 0.1 µF to 270 µF, the 695D is available from 4 WV_{DC} to 50 WV_{DC} and 100 % tin terminations are standard. Both 10 % and 20 % tolerances are standard options. 60 / 40 solder plate and gold are available upon special request. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Tape is compliant to EIA-481-C and reeling to IEC 286-3.

CWR06 SERIES - MILITARY SOLID TANTALUM

The CWR06 series of conformal coated caps is qualified to MIL-C-55365/4. It is available in capacitance from 0.10 µF to 100 µF with Weibull failure rates, B, C and exponential M & P and in 4 WV_{DC} to 50 WV_{DC} range. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Standard termination finishes are 100 % tin also available are 50 µinch gold plate, 60 / 40 tin / lead electroplated and hot solder dipped.

TR3 SERIES - ULTRA LOW ESR MOLDED TANTALUM CAPACITORS

The TR3 series is pad-compatible with the 593D series. Capacitance ranges from 0.47 µF to 680 µF and voltage ratings from 4 WV_{DC} to 50 WV_{DC}. The ESR range begins at an ultra low 35 mΩ to 5.5 Ω and 100 % tin terminations are available. Both 10 % and 20 % tolerances are standard options. The TR3 is ideal for microprocessor bulk energy storage and DC to DC conversion applications in telecom, automotive, computer, industrial, commercial, medical, and avionics end systems. Case sizes B, C, D, and E are 100 % surge current tested. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Tape is compliant to EIA-481-C and reeling to IEC 286-3.

CC/EC SERIES - SOLID TANTALUM CONFORMAL COATED CHIP CAPACITORS

The CC/EC series is pad-compatible with the CWR06 series. With 8 standard case codes, the CC/EC has a temperature operating range from -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. CC/EC capacitors are 100 % low impedance power burned-in at +85 °C. They are available with gold or solder dipped terminations and are packaged in 50 unit "blister-pack" trays or 8 mm or 12 mm tape and reel. CC/EC caps are primarily for medical, aerospace and military hybrid applications.

T83 SERIES - HI-REL COTS, MOLDED CASE TANTALUM CAPACITORS

The T83 hi-rel COTS series is intended for military and industrial high volume, highly automated surface mount manufacturing processes. Available in six EIA standard case sizes and are optical character recognition qualified. Standard lead termination finish is 60 / 40 tin / lead with 100 % tin available as an option. Voltage rating options are 4 WV_{DC} to 50 WV_{DC} with capacitances available from 0.10 µF to 330 µF. Both 10 % and 20 % tolerances are standard options. The devices are rated for an extended -55 °C to +85 °C operating temperature range and a derating temperature of +125 °C. Standard packaging of the T83 is tape and reel per EIA-481-1.

CWR16 SERIES - MILITARY SOLID TANTALUM

The CWR06 series of conformal coated caps is qualified to MIL-C-55365/13. It is available in capacitance from 0.33 µF to 330 µF with Weibull failure rates, B, C in a 4 WV_{DC} to 35 WV_{DC} range. The devices are rated for an extended -55 °C to +85 °C operating temperature range and derating temperature of +125 °C. Standard termination finishes are 50 µinch gold plate, 60 / 40 tin / lead electroplated and hot solder dipped.

T95 SERIES - HI-REL COTS, CONFORMAL COATED TANTALUM CAPACITORS

The T95 hi-rel COTS series is designed for military and industrial users that demand a broader array of capacitance values, voltage ranges, and case sizes than what is available in MIL-SPEC offerings without sacrificing reliability. Lead terminations are available in 60 / 40, Sn / Pb and RoHS compliant matte tin. Voltage ratings are available from 4 WV_{DC} to 50 WV_{DC} volts with a cap range of 0.1 µF to 680 µF. Capacitance tolerances offered are both 10 % and 20 %. Device temperature ratings are from -55 °C to +85 °C, and up to +125 °C with derating.

Standard packaging is tape and reel per EIA-481-C.

298D SERIES - MICROTAN® MAP TECHNOLOGY, FACEDOWN TERMINATION MOLDED TANTALUM CAPACITORS

The 298D series of solid tantalum capacitors (MICROTAN®) uses Vishay's new MAP (multi-array packaging) assembly and facedown termination technology and thus realizes a leap in volumetric capabilities producing capacitive rating from 1 µF - 50 WV_{DC} to 220 µF - 4 WV_{DC}. The 298D is designed primarily for consumer portable electronics. Since it does not produce micro-phonic noise associated with the piezo-electric effect found in high CV MLCCs it is ideal for use in audio / video circuits. The 298D offers 100 % matte tin and gold plated terminations, standard and is RoHS compliant. Operating temperature range is -55 °C to +125 °C and is only available with 20 % capacitance tolerance. Tape and reel packaging is per EIA 481-C.

TH3 SERIES - MOLDED, EXTENDED TEMPERATURE - 150 °C

The TH3 series is a high temperature version of Vishay's molded, solid tantalum capacitors, targeted for applications that require operating temperatures of up to +150 °C. The TH3 is available in five standard EIA case sizes and offers 100 % matte tin, standard as well as gold and Sn / Pb lead terminations. Capacitance ranges from 0.33 µF to 100 µF with voltages ranging from 10 WV_{DC} to 50 WV_{DC}. Tape and reel packaging is per EIA 481-C.

TR8 SERIES - MICROTAN® MAP TECHNOLOGY, LOW-ESR, FACEDOWN TERMINATION MOLDED TANTALUM CAPACITORS

The TR8 series is the low-ESR version of the popular 298D series. With the 298D series already offering among the lowest ESR in the industry, the TR8 extends this advantage. As a member of the MICROTAN family, the TR8 uses Vishay's new MAP (multi-array packaging) assembly and facedown termination technology and thus realizes a leap in volumetric capabilities producing capacitive rating from 1 µF - 50 WV_{DC} to 220 µF - 4 WV_{DC}. The TR8 is designed primarily for consumer portable electronics. Since it does not produce micro-phonic noise associated with the piezo-electric effect found in high CV MLCCs it is ideal for use in audio / video circuits. TR8 offers 100 % matte tin and gold plated terminations and is RoHS compliant. Operating temperature range is -55 °C to +125 °C and is only available with 20 % capacitance tolerance.

Tape and reel packaging is per EIA 481-C.

T96 SERIES - HI-REL COTS, CONFORMAL COATED TANTALUM CAPACITORS WITH INTEGRATED FUSE

The T96 hi-rel COTS series features an integrated fuse. Designed for safety critical military and aerospace applications, these products combine reliability performance and fail-safe operation with the popular ratings from the commercial 195D, 594D and 595D series. Lead terminations are available in 60 / 40 Sn / Pb and RoHS compliant matte tin. Voltage ratings are available from 4 WV_{DC} to 63 WV_{DC} volts with a capacitance range of 15 µF to 1500 µF. Capacitance tolerances offered are both 10 % and 20 %. Device temperature ratings are from -55 °C to +85 °C, and up to +125 °C with derating.

Standard packaging is tape and reel per EIA-481-C.

T97 SERIES - HI-REL COTS, ULTRA LOW ESR, CONFORMAL COATED TANTALUM CAPACITORS

The T97 is the hi-rel COTS equivalent to the commercial 597D series. The T97 offers hi-rel screening patterned after MIL-PRF-55365 and is designed for military and industrial users that demand a broader array of capacitance values, voltage ranges, and case sizes than what is available in MIL-SPEC offerings without sacrificing reliability. With voltage ratings up to 63 V, these new high-capacitance high-voltage devices are perfect for avionics applications involving the aircraft +28 V DC power distribution system. Lead terminations are available in 60 / 40 Sn / Pb and RoHS compliant matte tin. Voltage ratings are available from 4 WV_{DC} to 63 WV_{DC} volts with a cap range of 15 µF to 1500 µF. Capacitance tolerances offered are both 10 % and 20 %. Device temperature ratings are from -55 °C to +85 °C, and up to +125 °C with derating.

Standard packaging is tape and reel per EIA-481-C.

T98 SERIES - HI-REL COTS, ULTRA LOW ESR, CONFORMAL COATED TANTALUM CAPACITORS WITH INTEGRATED FUSE

The T98 series is a hi-rel COTS product which features an integrated fuse for fail-safe operation. Designed for safety critical military and aerospace applications, these products combine reliability performance with the high-capacitance, high-voltage solutions of it's commercial counterpart, the 597D. Lead terminations are available in 60 / 40 Sn / Pb and RoHS compliant matte tin. Voltage ratings are available from 4 WV_{DC} to 63 WV_{DC} volts with a capacitance range of 15 µF to 1500 µF. Capacitance tolerances offered are both 10 % and 20 %. Device temperature ratings are from -55 °C to +85 °C, and up to +125 °C with derating.

Standard packaging is tape and reel per EIA-481-C.