



KEMET Introduces First-to-Market Tantalum Stack Polymer Capacitors

KEMET Corporation a leading manufacturer of tantalum, ceramic, aluminum, film, paper and electrolytic capacitors, today introduced its new Tantalum Stack Polymer (TSP) Series capacitors. The TSP Series is the first stack solution in the market that utilizes organic conductive polymer as the cathode plate of the capacitor. TSP Series is targeted for applications requiring high capacitance and very low ESR but with limited board space in the consumer/gaming, computer, medical, military/aerospace, telecommunications, and transportation markets.

The KEMET Tantalum Stacks Polymer (TSP) Series is designed to provide the highest capacitance/voltage ratings in surface mount configuration. KEMET's T540 Polymer COTS capacitors are utilized in stacks of 2,3,4 and 6 components to achieve a broad range of capacitance and voltage ratings. The T540 COTS series offers component level surge current testing options and standard and low ESR options. As with other KEMET Polymer product, this series may be operated at steady state voltages up to 90% of rated voltage for part types with rated voltages of ≤ 10 volts and up to 80% of rated voltage for part types > 10 volts. Stacking configurations offer this Polymer COTS product with custom capacitance/voltage solutions and very low ESR options

TSP Series Technical Information

- Polymer cathode technology
- High capacitance
- Surface mountable
- Capacitance values of 66 μ F to 4080 μ F
- Capacitance can be custom specified
- Voltage ratings of 3VDC to 16VDC
- High volumetric efficiency
- Ultra low ESR
- Surge capability
- Operating temperature range of -55°C to +125°C
- Laser-marked case

- Use up to 90% of rated voltage for part types ≤ 10 volts
- Use up to 80% of rated voltage for part types > 10 volts

Typical applications include decoupling and filtering in a variety of market segments. The T540 Polymer COTS stack devices can be utilized in military and aerospace applications. Other KEMET series can be utilized in filtering and decoupling applications to service various market segments.

Soldering Process



KEMET's families of surface mount capacitors are compatible with wave (single or dual), convection, IR or vapor phase reflow techniques. Preheating of these components is recommended to avoid extreme thermal stress. KEMET's recommended profile conditions for convection and IR reflow reflect the profile conditions of the IPC/J-STD-020D standard for moisture sensitivity testing. The devices can safely withstand a maximum of three reflow passes at these conditions.

Note that although the X/7343-43 case size can withstand wave soldering, the tall profile (4.3 mm maximum) dictates care in wave process development.

Hand soldering should be performed with care due to the difficulty in process control. If performed, care should be taken to avoid contact of the soldering iron to the molded case. The iron should be used to heat the solder pad, applying solder between the pad and the termination, until reflow occurs. Once reflow occurred, the iron should be removed immediately. "Wiping" the edges of a chip and heating the top surface is not recommended

Ref. N° 1111800