

Frequently Asked Questions T499 High Temperature (175°C) Series

1. What is the KEMET T499 series capacitor?

KEMET's new T499 series capacitor is a surface mount tantalum chip capacitor that maintains high reliability performance at operating temperatures of up to 175° C. The T499 series meets or exceeds the requirements of EIA standard 535BAAC and includes five EIA standard case sizes with capacitance values ranging from 0.15uF to 220uF and voltage offerings from 6 to 50 volts.

2. Is an automotive grade option available for the T499 series and how do I order it?

The T499 series is qualified to AEC Q200 testing so all T499 products meet the automotive requirements. However, by ordering with customer specification (c-spec) "AUTO", additional physical and electrical screening measures that are frequently requested by the automotive industry but not included in the Q200 requirement are included in the process.

3. Are lower ESR values available for the T499 series?

At this time, lower ESR offerings are not included in the product offerings. However, if you have a need for a lower ESR value, please submit a technical request and KEMET will determine its capability for providing a lower ESR value.

4. What is the temperature derating for this series?

The T499 series requires no temperature derating up to 85° C. Above 85°C, you derate linearly to 0.5Vr@175. In addition to temperature derating, industry guidelines (EIA 809) also recommend a voltage derating of 50% for optimal reliability.

5. Are these components available as RoHS-Compliant?

Yes, KEMET offers this series in a RoHS-Compliant version. To receive RoHS-Compliant product, orders should be entered with termination finishes other than Sn/Pb (tin/lead) (i.e. order product with gold or 100% Sn termination finishes). See ordering information section for details on designating termination finish

6. What makes the T499 series a reliable component at 175° C?

The T499 series includes a new generation of material sets that show stable performance and reliability at temperatures up to 175° C. In addition, KEMET has developed a test protocol that preconditions the T499 series to these extreme temperatures prior to end-of-line packaging. This test protocol ensures that all finished devices are capable of meeting environmental conditions of 175° C or greater for brief periods.

7. Is this a "Sole Source" item?

No, EPCOS also offers a 175° C rated Tantalum series.

8. Does KEMET offer reliability data at rated conditions?

Yes, reliability data is available at rated conditions.

9. Are PPAPs available?

Yes, contact your local KEMET Sales Rep for information

10. Are samples available?

Yes, contact your local KEMET Sales Rep for samples.

11. What leadframe materials are available with the T499 series?

This series is available in three termination finishes; 100% Tin (order with a "T" suffix), gold plated (order with a "G" suffix), and Sn/Pb (tin/lead) (order with an "H" suffix).

12. What is the lead time for this series?

Current lead time is from six to eight weeks.

13. What packaging options are available?

The T499 series is available in tape and reel packaging. You can order this product in 7" or 13" reels.

14. What are the target markets for this series?

Target markets are those requiring performance capability up to 175° C. Some potential applications include automotive (engine compartment/transmission), high temperature industrial, and base stations.

15. Is the physical appearance of these devices different?

The T499 series is molded in a black epoxy case instead of the standard yellow cases associated with KEMET products. In addition, the polarity stripe includes the letters "H+" to signify "High Temperature / 175° C Capability".

16. Is this series capable of meeting the J-Std-020C reflow requirements for Pb-Free board mounting?

Yes. The T499 series can be used in Pb-Free board mount conditions with peak temperatures up to 260°C.

17. What is the operating temperature range for this series?

-55° to 175° C.