

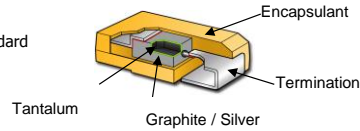
# KEMET Surface Mount Tantalum

Revision K, 11 March 2013

**Note:** Information subject to change without notice. Monitor website regularly for updates. KEMET is not liable for any damages, direct or indirect, consequential or otherwise, that the reader might incur as a result of ignoring this warning, or that any third party might suffer as a result of the reader's ignoring this warning.

## Characteristics and Typical Construction

- Variety of features by series
- Pb-Free & RoHS / ELV Compliant version standard
- 3 - 50 Volts
- ± 20% Capacitance tolerance
- Tape & Reel Packaging



## RoHS Restricted Substance Content

**Key for Determining Adherence to China RoHS and EU 2011/65/EU Content Criteria<sup>4</sup>**  
 O = ≤ MCV, X = > MCV, X = > MCV, but EU RoHS Compliant with Exemption(s)

KEMET Product	Series	Material and MCV <sup>1</sup> Termination Code	Restricted Material						Compliant Version		
			Cd < 0.01%	Cr <sup>6+</sup> < 0.1%	Pb < 0.1%	Hg < 0.1%	PBB < 0.1%	PBDE < 0.1%	Available since	Standard since	China RoHS Symbol <sup>4</sup>
Precision Molded Chip	T491	T or G	O	O	O	O	O	O	Mar-00	n/a - Termination unique for Pb-Free	Ⓞ
Low ESR, Industrial Grade	T494										
Low ESR, Surge Robust	T495										
Fail Safe Fused	T496		T or B	O	O	O	O	O	Varies <sup>2</sup>	Varies <sup>2</sup>	Ⓞ
High Grade COTS	T497										
High Temperature Tantalum	T498, T499										
Ultra-Low ESR	T510										
Multi Anode COTS	T513	H	O	O	X	O	O	O	-	-	Ⓧ
Precision Molded Chip	T491										
Low ESR, Industrial Grade	T494										
Low ESR, Surge Robust	T495										
Fail Safe Fused	T496										
High Grade COTS	T497										
High Temperature Tantalum	T498, T499										
Ultra-Low ESR	T510										
Multi Anode COTS	T513										
Style CWR11 per MIL-PRF-55365/8	T492		S	O	O	X	O	O			
		G	O	O	O	O	O	O			
	T409 (CWR09), T419 (CWR19), T429 (CWR29)	B	O	O	O	O	O	O	May-06	n/a - Termination unique for Pb-Free	Ⓞ
		Solder options per catalog	O	O	X	O	O	O	O		
Commercial-Off-The-Shelf (COTS)	T493	T or B	O	O	O	O	O	O	Oct-05	n/a - Termination unique for Pb-Free	Ⓞ
		Solder options per catalog	O	O	X	O	O	O			

<sup>2</sup>Consult the Tantalum Lead-Free Conversion Schedule for clean date KEMET converted to Pb-Free as standard manufacturing by series and case size.

<sup>4</sup>China RoHS Symbol based on current manufacturing. Refer to notes in Pb column for transition dates.

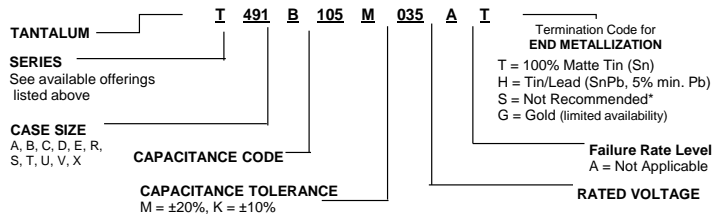
## Soldering Capability Characteristics

	Matte Tin Termination	SnPb Termination
<b>Termination Material</b>	Copper	Copper
<b>Termination Plating (Barrier)</b>	100% Matte Tin (Copper, Nickel)	90Sn10Pb (Copper)
<b>Peak Temperature Capability</b>	260°C	260°C
<b>Soldering Process Compatibility</b>	Backward & Forward Compatible	Backward & Forward Compatible
<b>MSL Rating</b>	1	1
<b>Tin Whisker Test Results</b>	Class 2	Class 2

*based on JESD22-A121 and JESD201<sup>5</sup>*

<sup>5</sup>Per EIA/ECA component bulletin CB19, tin whiskering is not considered a reliability risk within the capacitor industry for non-Military / Hi-Rel applications.

## Ordering



\*Pb-free supply is not guaranteed with the 'S' termination code. **This termination code not available effective 15 July 2007**

## Identification

Reel level **KEMET EZ ID** label indicates product content relative to substance restrictions of the EU RoHS Directive, 2011/65/EU and China RoHS.  
**RoHS-PRC** = Meets criteria without exemption  
**RoHS-EU** = Meets criteria with exemption  
**RoHS-NO** = Does not meet criteria

