



Product Training Module: Thermally Conductive Interface Caps (THINC Series)

Jan 2013



Introduction

- Purpose
 - This training module is used to give an introduction to t-Global Technology's THINC range of thermally conductive caps
- Objectives
 - To identify the key properties of the THINC product range
 - To identify the key design criteria for the THINC product selection
 - To identify common applications for the product
- Content
 - Introduction and background to the product range
- Learning time
 - 30 mins

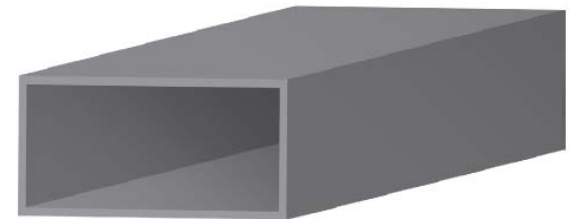


THINC

- THINC is t-Global's premium range of thermally conductive caps
- THINC provides electrical insulation of the components ensuring maximum protection against electrical breakdown while reducing total thermal resistance to the cooling element, heat sink or chassis.
- THINC is available in standard dimensions for TO-220, TO-3P and TO-247 packages
- The THINC series provides:
 - Excellent thermal conductivity: 1.9 W/m-k
 - Superior dielectric breakdown voltage: 4 KV AC
 - Low silicone outgassing

THINC Benefits

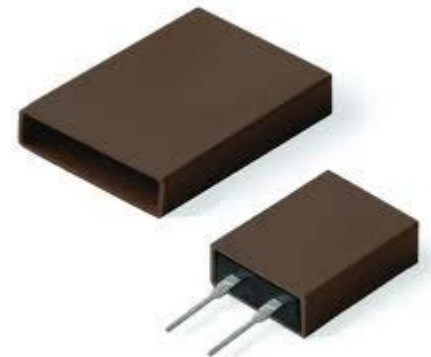
- The THINC series offers the following benefits:
 - all-round electric insulation of the components ensuring maximum protection against electrical breakdown whilst reducing total thermal resistance to the cooling element, heat sink or chassis
 - Thermal conductivity: 1.9 W/m-k
 - Breakdown voltage: 4 KV AC
 - Availability in various configurations depending on the application
 - Exceptionally low silicone outgassing
 - Low total cost of ownership solution





THINC Applications

- The THINC range is commonly used for the following applications:
 - TO-220, TO-3P and TO-247 packages
- Custom designs and shapes are also possible – please contact t-Global for further options



THINC Datasheet

Property	THINC22-TO220-16-11.4-5.8-0.03	THINC22-TO220-16-11.4-5.8-0.45	THINC23-TO220-21.5-11.4-5.8-0.03	THINC23-TO220-21.5-11.4-5.8-0.45	THINC33-TO247-28.5-17.5-5.8-0.03	THINC33-TO247-28.5-17.5-5.8-0.45	Test Method
Colour	Grey	Grey	Grey	Grey	Grey	Grey	Visual
Material	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	-
Thickness (mm)	0.3	0.45	0.3	0.45	0.3	0.45	-
Op. Temp. Range (°C)	-45 to 180	-45 to 180	-45 to 180	-45 to 180	-45 to 180	-45 to 180	-
Density (g/cm ³)	2.55	2.55	2.55	2.55	2.55	2.55	ASTM D792
Thermal Conductivity (W/mk)	1.9	1.9	1.9	1.9	1.9	1.9	ASTM D5470
Shore A	75	75	75	75	75	75	ASTM D2240
Breakdown Voltage AC (V)	4000	4000	4000	4000	4000	4000	ASTM D149
Breakdown Voltage DC (V)	6000	6000	6000	6000	6000	6000	ASTM D149
Dielectric Constant (1000 Hz)	5.8	5.8	5.8	5.8	5.8	5.8	ASTM D150
Thermal Impedance (°Cin ² /w)							
t=0.23mm 20psi	0.55	0.55	0.55	0.55	0.55	0.55	ASTM D5470
t=0.23mm 50psi	0.38	0.38	0.38	0.38	0.38	0.38	ASTM D5470
t=0.23mm 100psi	0.29	0.29	0.29	0.29	0.29	0.29	ASTM D5470
TML (%)	<0.2%	<0.2%	<0.2%	<0.2%	<0.2%	<0.2%	ASTM E595
UL Flammability	V-0	V-0	V-0	V-0	V-0	V-0	UL 94



Summary

- THINC is t-Global's premium range of thermally conductive capacitor caps
- THINC provides thermally conductive insulation for numerous types of power packages
- THINC offers all-round electric insulation of the components ensuring maximum protection against electrical breakdown whilst reducing total thermal resistance to the cooling element, heat sink or chassis
- THINC provides a thermal conductivity of 1.9 W/m-k
- THINC provides a breakdown voltage: 4 KV AC