



Product Training Module: GP 2000 Series: Thermally Conductive Tubes

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Introduction

- Purpose
 - This training module is used to give an introduction to t-Global Technology's GP2000 range of thermally conductive tubes
- Objectives
 - To identify the key properties of the GP2000 product range
 - To identify the key design criteria for product selection
 - To identify common applications for the product
- Content
 - Introduction and background to the GP2000 product range
- Learning time
 - 30 mins



GP 2000

- .GP 2000 is t-Global's premium range of thermally conductive tubes
- These provide thermally conductive insulation for clip mounted plastic power packages
- GP 2000 series products are made from a highly thermally conductive silicone rubber
- Typical applications include:
 - Clip mounted power semiconductors
 - TO-220, TO-218, TO-247 and TO-3P





GP 2000 Benefits

- The GP 2000 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: 1.3 W/m-k
 - Breakdown voltage: 5 KV AC
 - Availability in various lengths and diameters depending on the application
 - Exceptionally low silicone outgassing
 - Low total cost of ownership solution

GP 2000 Applications

- GP 2000 is commonly used for the following applications:
 - Clip mounted power semiconductors
 - TO-220, TO-218, TO-247 and TO-3P
 - Fluid heat exchangers
 - Audio systems
 - LED systems



GP 2000 Datasheet

Property	GP2000- D11-L25-0.3	GP2000- D11-L30-0.3	GP2000- D13.5-L25-0.3	GP2000- D13.5-L30-0.3	Test Method
Colour	Green	Green	Green	Green	Visual
Base	Silicone Rubber	Silicone Rubber	Silicone Rubber	Silicone Rubber	-
Thickness (mm)	0.3	0.3	0.3	0.3	-
Diameter / Length	11mm / 25mm	11mm / 30mm	13.5mm / 25mm	13.5mm / 30mm	-
Op. Temp. Range (°C)	-55 to 180	-55 to 180	-55 to 180	-55 to 180	-
Density (g/cm ³)	2.52	2.52	2.52	2.52	ASTM D792
Thermal Conductivity (W/mk)	1.3	1.3	1.3	1.3	ASTM D5470
Shore A	80	80	80	80	ASTM D2240
Breakdown Voltage AC (V)	5000	5000	5000	5000	ASTM D149
Breakdown Voltage DC (V)	7000	7000	7000	7000	ASTM D149
Dielectric Constant (1000 Hz)	5.7	5.7	5.7	5.7	ASTM D150
Volume Resistivity (Ohm-cm)	>10 ¹²	>10 ¹²	>10 ¹²	>10 ¹²	ASTM D257
TML (%)	<0.2%	<0.2%	<0.2%	<0.2%	ASTM E595
Tensile Strength (PSI)	200	200	200	200	ASTM D412
Elongation (%)	60	60	60	60	ASTM D412
UL Flammability	V-0	V-0	V-0	V-0	UL 94



Summary

- GP 2000 is t-Global's premium range of thermally conductive tubes
- GP 2000 provides thermally conductive insulation for clip mounted plastic power packages
- GP 2000 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
- GP 2000 provides a thermal conductivity of 1.3 W/m-k
- GP 2000 provides a breakdown voltage: 5 KV AC
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