

Rogers Corporation Theta® MCL-HE-679G Laminate, GHA-679G Prepreg Halogen-Free, Low Dielectric Constant, High heat Resistant Multi-Layer Circuit Material

Category : Polymer

Material Notes:

Theta® circuit materials are halogen free and have good dielectric characteristics suitable for high speed digital applications. Theta materials, in part due to their superior heat resistance, have proven to be extremely reliable through lead free processing and in high layer count HDI design requiring sequential laminations. Features and Benefits: Low insertion loss - Improved signal integrity Improved thermal characteristics - High Tg, suitable for lead free processing Superior thermal/mechanical reliability - Z-axis CTE 30% lower than standard FR-4 Enhanced design flexibility - wide range of laminate and prepreg thickness options Halogen free - Environmentally friendly chemistry with no sacrifice to thermal, mechanical or electrical performance Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-Theta-MCL-HE-679G-Laminate-GHA-679G-Prepreg-Halogen-Free-Low-Dielectric-Constant-High-heat-Resistant-Multi-Layer-Circuit-Material.php

Physical Properties	Metric	English	Comments
Water Absorption	0.030 - 0.040 %	0.030 - 0.040 %	E-24/50 and D-24/23; IPC-TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Peel Strength	0.799 - 1.10 kN/m	4.56 - 6.28 pli	Copper; 1/2 EDC foil (18 micron); Condition A; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 - 45.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	19.4 - 25.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Z-Direction; IPC-TM-650 2.4.24
	@Temperature $\leq 190^\circ\text{C}$	@Temperature $\leq 374^\circ\text{F}$	
	190 - 220 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	106 - 122 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Z-Direction; IPC-TM-650 2.4.24
	@Temperature $\geq 180^\circ\text{C}$	@Temperature $\geq 356^\circ\text{F}$	
Glass Transition Temp, Tg	180 - 190 $^\circ\text{C}$	356 - 374 $^\circ\text{F}$	TMA; IPC-TM-650 2.4.24
Decomposition Temperature	370 - 390 $^\circ\text{C}$	698 - 734 $^\circ\text{F}$	TGA; 5% weight loss; IPC-TM-650 2.3.40
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.79 - 3.96	3.79 - 3.96	Z direction; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Electrical Properties	Metric 4.02	English 02	Comments
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	Z direction; JPCA-TM001
Dissipation Factor	0.0092 - 0.010	0.0092 - 0.010	Z direction; JPCA-TM001
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
	0.012 - 0.0126	0.012 - 0.0126	Z direction; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Conductive Anodic Filament Growth	> 1000 hrs.	85°C/85% RH, 100 V
Solder Heat Resistance	> 300 sec.	260°C, Condition A

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