

Rogers Corporation R03003 Ceramic-Filled PTFE Composite, High Frequency Circuit Material

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Glass Filled, Molded

Material Notes:

Features and Benefits:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-R03003-Ceramic-Filled-PTFE-Composite-High-Frequency-Circuit-Material.php

Physical Properties	Metric	English	Comments
Density	2.10 g/cc	0.0759 lb/in ³	
Water Absorption	<= 0.10 %	<= 0.10 %	D24/23; IPC-TM-2.4.8

Mechanical Properties	Metric	English	Comments
Tensile Modulus	0.903 GPa	131 ksi	X, Y-Direction; ASTM D638
Peel Strength	2.23 kN/m	12.7 pli	Copper; 1/2 oz. EDC After Solder Float; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 µm/m-°C	8.89 µin/in-°F	Y-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
	17.0 µm/m-°C	9.44 µin/in-°F	X-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
	25.0 µm/m-°C	13.9 µin/in-°F	Z-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
Specific Heat Capacity	0.900 J/g-°C	0.215 BTU/lb-°F	Calculated
Thermal Conductivity	0.500 W/m-K	3.47 BTU-in/hr-ft ² -°F	Z Direction; ASTM C518
	@Temperature 80.0 °C	@Temperature 176 °F	
Decomposition Temperature	500 °C	932 °F	TGA; ASTM D3850
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	Cond. A; IPC 2.5.17.1

Surface Resistance Electrical Properties	1.00e+13 ohm Metric	1.00e+13 ohm English	Cond. A: IPC 2.5.17.1 Comments
Dielectric Constant	2.96 - 3.04	2.96 - 3.04	Clamped stripline, Z-direction; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
	3.0	3.0	Differential Phase Length Method, Z-Direction
	@Frequency 8.00e+9 - 4.00e+10 Hz	@Frequency 8.00e+9 - 4.00e+10 Hz	
Dissipation Factor	0.0013	0.0013	IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Dimensional Stability	0.01 mm/m	ASTM D257, Cond. A; X, Y-direction
Thermal Coefficient of Dielectric Constant	13 ppm/°C	IPC-TM-650 2.5.5.5; 10 GHz; 0°C to 100°C; Z-Direction

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