

Rogers Corporation RT/duroid® 6035HTC Ceramic Filled PTFE Composite, High Power RF and Microwave

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

Material Notes:

Features & Benefits: High thermal conductivity - Improved dielectric heat dissipation, enabling lower operating temperatures for high power applications
Low loss tangent - Excellent high frequency performance
Thermally stable low profile and reverse treated copper foil - Lower insertion loss and excellent thermal stability of traces
Advanced filler system - Improved drillability and extended tools compared to alumina-containing circuit materials
Lead-free process compatible
ED and reverse treat copper foil
Applications: High power RF and microwave amplifiers
Power amplifiers, couplers, filters, combiners, power dividers
Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-RTduroid-6035HTC-Ceramic-Filled-PTFE-Composite-High-Power-RF-and-Microwave.php

Physical Properties	Metric	English	Comments
Density	2.20 g/cc	0.0795 lb/in ³	ASTM D792
Moisture Absorption at Equilibrium	0.060 %	0.060 %	D24/23; IPC-TM-650 2.6.2.1; ASTM D570
Thickness	254 - 1520 microns	10.0 - 60.0 mil	Range of Standard Thicknesses

Mechanical Properties	Metric	English	Comments
Tensile Modulus	1.68 GPa	244 ksi	TD; 40 hours; 50%RH; ASTM D638
	2.27 GPa	329 ksi	MD; 40 hours; 50%RH; ASTM D638
Peel Strength	1.38 kN/m @Temperature 288 °C, Time 20.0 sec	7.90 pli @Temperature 550 °F, Time 0.00556 hour	IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	19.0 µm/m-°C	10.6 µin/in-°F	X-, Y-Direction; ASTM D3386
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
	39.0 µm/m-°C	21.7 µin/in-°F	Z-Direction; ASTM D3386
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
Thermal Conductivity	1.44 W/m-K @Temperature 80.0 °C	9.99 BTU-in/hr-ft ² -°F @Temperature 176 °F	ASTM C518
Flammability, UL94	V-0	V-0	anticipated

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	Condition A; Z direction; IPC 2.5.17.1
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	Condition A; Z direction; IPC 2.5.17.1
Dielectric Constant	3.45 - 3.55	3.45 - 3.55	Z direction; Process; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
	3.6	3.6	Z direction; Design; Differential Phase Length Method
	@Frequency 8.00e+9 - 4.00e+10 Hz	@Frequency 8.00e+9 - 4.00e+10 Hz	
Dissipation Factor	0.0013	0.0013	Z direction; IPC-TM-650, 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Dimensional Stability	0.07 mm/m	IPC-TM-650 2.4.3.8; X, Y direction; after etch, +E/150
	0.07 mm/m	IPC-TM-650 2.4.3.9; X, Y direction; after etch, +E2/150
Thermal Coefficient of Dielectric Constant	-66 ppm/°C	mod IPC-TM-650, 2.5.5.5; Z direction; -50°C to 150°C

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