

Rogers Corporation R04533 Ceramic-Filled, Glass-Reinforced Hydrocarbon Laminate

Category : Polymer , Thermoset

Material Notes:

The R04500™ Series Cost Performance Antenna Grade Laminates are ceramic-filled, glass-reinforced hydrocarbon based materials that provides the controlled dielectric constant, low loss performance and excellent passive intermodulation response required for mobile infrastructure microstrip antenna applications. Features: Loss range (0.0020 to 0.0037) Dk range (3.3 to 3.5) Low PIM response Thermoset resin system Excellent dimensional stability Uniform mechanical properties High thermal conductivity Lead-free process compatible Benefits: Wide range of application use, including Cellular infrastructure base station antennas and WiMAX antenna networks Compatible with standard PCB fabrication Greater yield on larger panel sizes Robust handling and long life in use with thin materials Improved power handling Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-R04533-Ceramic-Filled-Glass-Reinforced-Hydrocarbon-Laminate.php

Physical Properties	Metric	English	Comments
Density	1.80 g/cc	0.0650 lb/in ³	ASTM D792
Moisture Absorption at Equilibrium	0.020 %	0.020 %	D48/50; IPC-TM-650 2.6.2.1; ASTM D570

Mechanical Properties	Metric	English	Comments
Peel Strength	1.23 kN/m	7.00 pli	Copper; 1 oz. EDC post Solder Float; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 μm/m-°C	6.11 μin/in-°F	Y-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
	13.0 μm/m-°C	7.22 μin/in-°F	X-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
	37.0 μm/m-°C	20.6 μin/in-°F	Z-Direction; ASTM D3386-94
	@Temperature -55.0 - 288 °C	@Temperature -67.0 - 550 °F	
Thermal Conductivity	0.600 W/m-K	4.16 BTU-in/hr-ft ² -°F	ASTM C518
	@Temperature 80.0 °C	@Temperature 176 °F	
Glass Transition Temp, Tg	>= 280 °C	>= 536 °F	TGA, Condition A; IPC-TM-650 2.4.24

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.22 - 3.38	3.22 - 3.38	Z direction; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Dielectric Strength	>= 19.7 kV/mm	>= 500 kV/in	Z Direction; IPC-TM-650 2.5.6.2
	@Thickness 0.510 mm	@Thickness 0.0201 in	
Dissipation Factor	0.0020	0.0020	Z direction; IPC-TM-650 2.5.5.5
	@Frequency 2.50e+9 Hz	@Frequency 2.50e+9 Hz	
	0.0025	0.0025	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	< 0.2 mm/m	X, Y directions; after etch; IPC-TM-650, 2.4.39A
PIM	150 - 160 Dbc	Summitek 1900b PIM analyzer; Reflected 43 dBm swept tones

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