

Rogers Corporation Ultralam® 3908 Liquid Crystalline Polymer Circuit Material

Category : Polymer

Material Notes:

ULTRALAM® 3908 bondply is used as a bonding medium between copper and the dielectric material. This product was developed specifically for multi-layer substrate constructions. This adhesiveless film is well suited for high speed and high frequency applications in telecommunication network equipment, high-speed computer data links and other high performance applications. Features and Benefits: Excellent electrical properties - Stable dielectric constant for minimal cross talk between signal layers, allows use of thinner bonding film with very minimal signal loss. Low modulus - Bends easily for flex applications, offers design flexibility and minimizes space requirements. Extremely low moisture absorption - maintains stable electrical, mechanical and dimensional properties. Flame resistant - halogen-free, UL94VTM/0 (meets requirements for consumer products). Typical Applications: All LCP flex interconnections - high speed switches and routers, Backplane-to-backplane, Data links, Card-to-card. Hybrid substrates - Handheld and RF devices. Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-Ultralam-3908-Liquid-Crystalline-Polymer-Circuit-Material.php

Physical Properties	Metric	English	Comments
Water Absorption	0.040 %	0.040 %	IPC 2.6.2
	@Time 86400 sec	@Time 24.0 hour	
Thickness	25.4 - 50.8 microns	1.00 - 2.00 mil	10% tolerance for variation

Mechanical Properties	Metric	English	Comments
Tensile Strength	214 MPa	31000 psi	IPC 2.4.19
Tensile Modulus	2.45 GPa	355 ksi	IPC 2.4.19
Tear Strength Test	>= 1.4	>= 1.4	kg; IPC 2.4.16

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 µm/m-°C	9.44 µin/in-°F	X-, Y-Direction; IPC 2.4.41.3
	@Temperature 30.0 - 150 °C	@Temperature 86.0 - 302 °F	
	150 µm/m-°C	83.3 µin/in-°F	Z-Direction; IPC 2.4.41.3
	@Temperature 30.0 - 150 °C	@Temperature 86.0 - 302 °F	
Melting Point	280 °C	536 °F	DSC
Maximum Service Temperature, Air	>= 240 °C	>= 464 °F	UL RTI
UL RTI, Mechanical without Impact	190 °C	374 °F	

Flammability 1B 94 Thermal Properties	V-0 Metric	V-0 English	Comments
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Electrical Properties	Metric	English	Comments
Volume Resistivity	2.60e+20 ohm-cm	2.60e+20 ohm-cm	IPC 2.5.17.1
Surface Resistance	1.20e+18 ohm	1.20e+18 ohm	IPC 2.5.17.1
Dielectric Constant	2.9 @Frequency 1.00e+10 Hz	2.9 @Frequency 1.00e+10 Hz	IPC-TM-650 2.5.5.5.1
Dielectric Strength	118 kV/mm	3000 kV/in	ASTM D149
Dissipation Factor	0.0025 @Frequency 1.00e+10 Hz	0.0025 @Frequency 1.00e+10 Hz	IPC-TM-650 2.5.5.5.1

Descriptive Properties	Value	Comments
Chemical Resistance	98.7 percent	IPC 2.3.4.2
Coefficient of Hygroscopic Expansion	4 ppm/%RH	60°C
Dimensional Stability	< 0.1%	MD; IPC 2.2.4 method B
	< 0.1%	TD; IPC 2.2.4 method B
Solder Float	pass	IPC 2.4.13, Method B; 288°C

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