

isola

G200

Epoxy Laminate and Prepreg

Isola's G200 product is a fully proven laminate and prepreg system designed to meet today's high reliability printed circuit board requirements.

Blending Bismaleimide/Triazine (BT) and epoxy resin provides G200 with enhanced thermal, mechanical and electrical performance over most epoxy materials. G200 possesses performance characteristics that make it an excellent selection for large panel size, high layer count Printed Wiring Boards (PWB).

Product Attributes

Legacy Materials

Typical Market Applications

Aerospace & Defense

ORDERING INFORMATION:

Contact your local sales representative or visit www.isola-group.com for further information.

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Legacy Materials

Data Sheet

Tg 180°C

Td 325°C

Dk 3.70

Df 0.013

IPC-4101 - / 30

UL - File Number E41625

Last Updated May 7, 2019
Revision No: C

Product Features

- Industry Recognition
 - UL File Number: E41625
 - RoHS Compliant
- Performance Attributes
 - CAF resistant
- Processing Advantages

Product Availability

- Standard Material Offering: Laminate
 - 2 to 125 mil (0.05 to 3.2 mm)
 - Available in full size sheet or panel form
- Copper Foil Type
 - HTE Grade 3
 - VLP-2 (2 micron), 1 oz and below
 - RTF (Reverse Treat Foil)
- Copper Weight
 - ½ to 2 oz (18 to 70 µm) available
 - Heavier copper available
 - Thinner copper foil available
- Standard Material Offering: Prepreg
 - Roll or panel form
 - Tooling of prepreg panels
- Glass Fabric Availability
 - E-glass
 - Square weave glass

G200 Typical Values

Last Updated May 7, 2019

Property	Typical Value	Units		Test Method
		Metric (English)	IPC-TM-650 (or as noted)	
Glass Transition Temperature (Tg) by DSC	180	°C	2.4.25C	
Decomposition Temperature (Td) by TGA @ 5% weight loss	325	°C	2.4.24.6	
Time to Delaminate by TMA (Copper removed)	A. T260 B. T288	60 >10	Minutes 2.4.24.1	
Z-Axis CTE	A. Pre-Tg B. Post-Tg C. 50 to 260°C, (Total Expansion)	55 275 3.30	ppm/°C ppm/°C % 2.4.24C	
X/Y-Axis CTE	Pre-Tg	13/14	ppm/°C 2.4.24C	
Thermal Conductivity	0.35	W/mK	ASTM E1952	
Thermal Stress 10 sec @ 288°C (550.4°F)	A. Unetched B. Etched	Pass	Pass Visual 2.4.13.1	
Dk, Permittivity	A. @ 100 MHz B. @ 1 GHz C. @ 2 GHz D. @ 5 GHz E. @ 10 GHz	3.80 3.70 3.70 3.65 3.65	— 2.5.5.3 2.5.5.9 Bereskin Stripline Bereskin Stripline Bereskin Stripline	
Df, Loss Tangent	A. @ 100 MHz B. @ 1 GHz C. @ 2 GHz D. @ 5 GHz E. @ 10 GHz	0.0150 0.0150 0.0130 0.0150 0.0150	— 2.5.5.3 2.5.5.9 Bereskin Stripline Bereskin Stripline Bereskin Stripline	
Volume Resistivity	A. After moisture resistance B. At elevated temperature	8.9 x 10 ⁸ 6.5 x 10 ⁸	MΩ-cm 2.5.17.1	
Surface Resistivity	A. After moisture resistance B. At elevated temperature	2.21 x 10 ⁶ 4.4 x 10 ⁸	MΩ 2.5.17.1	
Dielectric Breakdown	>60	kV	2.5.6B	
Arc Resistance	130	Seconds	2.5.1B	
Electric Strength (Laminate & laminated prepreg)	45 (1175)	kV/mm (V/mil)	2.5.6.2A	
Comparative Tracking Index (CTI)	3 (175-249)	Class (Volts)	UL 746A ASTM D3638	
Peel Strength	A. Low profile copper foil and very low profile copper foil all copper foil >17 μm [0.669 mil] B. Standard profile copper 1. After thermal stress 2. After process solutions	1.14 (6.5) 0.96 (5.5) 0.90 (5.1)	N/mm (lb/inch) 2.4.8C 2.4.8.2A 2.4.8.3	
Flexural Strength	A. Length direction B. Cross direction	86.9 73.6	ksi 2.4.4B	
Tensile Strength	A. Length direction B. Cross direction	51.6 42.4	ksi ASTM D3039	
Young's Modulus	A. Length direction B. Cross direction	3489 3200	ksi ASTM D790-15e2	
Poisson's Ratio	A. Length direction B. Cross direction	0.182 0.160	— ASTM D3039	
Moisture Absorption	0.2	%	2.6.2.1A	
Flammability (Laminate & laminated prepreg)	V-0	Rating	UL 94	
Relative Thermal Index (RTI)	130	°C	UL 796	

The data, while believed to be accurate and based on analytical methods considered to be reliable, is for information purposes only. Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.

<https://www.isola-group.com/products/all-printed-circuit-materials/g200/>

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NOTE

Visit our site <http://www.isola-group.com> for more details.

Revisions:

A: Initial release - 4/17

B: Corrected units for Flexural and Tensile Strength - 8/18

C: Change MOT to RTI 5/19