



IS300MD

IS300MD is a proprietary high performance, low-Dk, low-loss, halogen-free material specifically designed for the high-end mobile applications.

IS300MD laminate and prepreg products are manufactured with Isola's patentable high performance resin systems. IS300MD has the best-in-class Dk for HDI applications, enabling the use of ultrathin dielectric, while maintaining manufacturable line widths. IS300MD laminate and prepreg can be tailored to any thickness to meet the needs of the latest multilayer HDI build-up technologies.

IS300MD is fully compatible with the standard chemical desmear process.

Performance

Tg 190°C

Td 390°C

Dk 3.06

Df 0.0033

zIPC- 4101C /21 /24 /26 /98 /101 /126

UL - File Number E41625

Qualified to UL's MCIL Program

Product Features

- Industry Recognition
 - RoHS Compliant
- Performance Attributes
 - Halogen free
- Processing Advantages

Product Availability

- Standard Material Offering: Laminate
- Copper Foil Type
- Copper Weight
- Standard Material Offering: Prepreg
- Glass Fabric Availability

ORDERING INFORMATION:

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

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IS300MD Specifications

Property		Typical Value	Units	Test Method
			Metric (English)	IPC-TM-650 (or as noted)
Glass Transition Temperature (Tg) by DSC		190	°C	2.4.25
Decomposition Temperature (Td) by TGA @ 5% weight loss		390	°C	2.4.24.2
Time to Delaminate by TMA (Copper removed)	A. T260 B. T288	>60	Minutes	2.4.24.1
Z-Axis CTE	50 to 260°C, (Total Expansion)	1.6	%	2.4.24
X/Y-Axis CTE	Pre-Tg	12	ppm/°C	2.4.24.1
Thermal Conductivity		0.31	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. @ 1 GHz B. @ 2 GHz C. @ 5 GHz D. @ 10 GHz	3.06	—	Bereskin Stripline
Df, Loss Tangent	A. @ 1 GHz B. @ 2 GHz	0.0032 0.0033	—	Bereskin Stripline
Dk, Permittivity	A. @ 5 GHz B. @ 10 GHz	0.0033	—	Bereskin Stripline
Volume Resistivity	C-96/35/90	1.33×10^7	MΩ-cm	2.5.17.1
Surface Resistivity	C-96/35/90	1.33×10^5	MΩ	2.5.17.1
Dielectric Breakdown		45.4	kV	2.5.6
Arc Resistance		139	Seconds	2.5.1
Electric Strength (Laminate & laminated prepreg)		45 (1133)	kV/mm (V/mil)	2.5.6.2
Comparative Tracking Index (CTI)		3/175-249	Class (Volts)	UL 746A ASTM D3638
Peel Strength	A. 1 oz. EDC foil B. 0.5 oz. EDC foil	0.88 (5.0) 0.75 (4.3)	N/mm (lb/inch)	2.4.8 2.4.8.2
Flexural Strength	A. Length direction B. Cross direction	43,633 35,567	lb/inch ²	2.4.4
Tensile Strength	A. Length direction B. Cross direction	437,235 387,153	lb/inch ²	ASTM D3039
Moisture Absorption		0.5	%	2.6.2.1
Flammability (Laminate & laminated prepreg)		V-0	Rating	UL 94
Max Operating Temperature		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.

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