SH260

Halogen-free, High Performance, Polyimide Laminate and Prepreg

FEATURES

- Polyimide system
- Ultra-high thermal performance
- Tough resin system, Non-MDA chemistry
- Maintain mechanical strength and bonding strength at high temperature
- Halogen-free, chemistry and lead-free compatible
- RoHS/WEEE compliant

APPLICATIONS

Burn-in Board
Down Hole
Aircraft and Aerospace
Other PCB requirements to work under high temperature for long time

GENERAL PROPERTIES

Test Items	Test Method	Test Condition	Unit	Typical Value
Tg	IPC-TM-650 2.4.24	TMA	℃	>250
Td	IPC-TM-650 2.4.24.6	TGA (5% W.L)	℃	429
T300	IPC-TM-650 2.4.24.1	TMA	min	>60
CTE (X/Y-axis) [1]	IPC-TM-650 2.4.41	α1（50-260℃）	ppm/℃	12-15
CTE (Z-axis)	IPC-TM-650 2.4.24	α1（Before Tg）	ppm/℃	45
	IPC-TM-650 2.4.24	50-260℃	%	1.20
Dielectric Constant (1GHz)	IPC-TM-650 2.5.5.9	C-24/23/50	-	4.12
Dissipation Factor (1GHz)	IPC-TM-650 2.5.5.9	C-24/23/50	-	0.007
Volume Resistivity	IPC-TM-650 2.5.17.1	C-96/35/90	MΩ-cm	7.45×10^{7}
Surface Resistivity	IPC-TM-650 2.5.17.1	C-96/35/90	MΩ	4.79×10^{7}
Electrical Strength [1]	IPC-TM-650 2.5.6.2	D-48/50+D-0.5/23	kV/mm	85
Dielectric Breakdown	IPC-TM-650 2.5.6	D-48/50+D-0.5/23	kV	>40
Arc Resistance	IPC-TM-650 2.5.1	D-48/50+D-0.5/23	s	180
Peel Strength (1OZ)	IPC-TM-650 2.4.8	288℃/10s	N/mm [lb/in]	1.37 [7.83]
Flammability	UL94	C-48/23/50	Rating	HB
Young's modulus [1]	IPC-TM-650 2.4.18.3	200℃	GPa	10.3
Flexural strength	IPC-TM-650 2.4.4	50℃	MPa	530
		200℃	MPa	439
Water Absorption	IPC-TM-650 2.6.2.1	D-24/23	%	0.26

TOPTEK PCB

Remarks: Specification sheet IPC-4101/40, /41, is for your reference only.

1. All the typical value is based on the 1.6 mm specimen, but [1] specimen thickness 0.1 mm.
2. All the typical value listed above is for your reference only, please turn to Shengyi Technology Co., Ltd. for detailed information, and all rights from this data sheet are reserved by Shengyi Technology Co., Ltd.

SH260B

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PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)	DK (1GHz)
106	72	0.060	3.5
1080	63	0.085	3.7
2313	55	0.110	3.85
2116	50	0.125	4.0
7628	40	0.195	4.27

Remark: DK@1GHz is tested by parallel plate method (IPC-TM-650 2.5.5.9).

Inner-layers Pre-treatment: Bake inner-layers in the shelf for 60 minutes at about 120℃ before lamination to get rid of the moisture.

Lamination parameter:

Pressure			Temperature		
Rise min.	Kg/cm²	Keep min.	Rise min.	℃	Keep min.
2	7	8	0	140	10
2	16	8	8	160	2
2	25	223	45	240	180
25	16	0	25	160	0
10	7	0	10	140	0
Total time			280min		

RECOMMENDED PROCESS CONDITIONS

- Vacuum: 10torr or less at the beginning to the end.
- Heat ramp:1.5-2.5℃/min, between 80℃and 140℃material temperature.
- Cure time: >180min(⩾220℃).
- Option for curing: Cure above 185℃ for 1.5 hours, post baking for about 3 hours at 230℃.
- Because of ultra-high lamination temperature, Copper Foil type of FUKUDA CF-T9VB-UN is recommended. Pin-lam is also recommended.

Drilling: Drilling parameters of high Tg or halogen-free laminate are compatible with SH260, or refer to right chart.
Desmear: Plasma or alkaline permanganate with appropriate parameter. Plasma is preferred.

Hole size (mm)	S (krpm)	F (m/min)	R (m/min)	Hit count
0.35	110	1.7	12	1200
0.4	110	2.4	12	1200
0.5	100	3.5	15	1200

PURCHASING INFORMATION

Thickness	Copper foil	Standard size
0.05mm ~3.2mm	18μm,35μm,70μm	914mm ×1220mm(36″×48″) 1016mm×1220mm(40″×48″) 1067mm ×1220mm(42″×48″)

Remark: Other sheet size and thickness could be available upon request.