



SH260

High Performance, Polyimide Laminate and Prepreg

FEATURES

- Polyimide system provides ultra-high thermal performance, with Tg > 250 °C (TMA), Td >405 °C (5% loss, TGA), and T300>60min.
- Lower Z-axis CTE of 1.20% (50-260 °C) offering superior PTH reliability.
- Maintain mechanical strength and bonding strength at high temperature.
- Tough resin system, Non-MDA chemistry.
- Halogen-free chemistry compatible with lead-free processing. RoHS/WEEE compliant.
- IPC 4101D/40, /41

APPLICATIONS

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

GENERAL PROPERTIES

Property	Condition	Units	Value	Test Method	
Dielectric Constant	@1MHz	C-24/23/50	-	4.22	IPC TM-650 2.5.5.3
	@1GHz	C-24/23/50	-	4.12	IPC TM-650 2.5.5.9
Dissipation Factor	@1MHz	C-24/23/50	-	0.007	IPC TM-650 2.5.5.3
	@1GHz	C-24/23/50	-	0.007	IPC TM-650 2.5.5.9
Volume Resistivity	After moisture resistance E-24/125	MΩ-cm		7.45×10 ⁷	IPC TM-650 2.5.17.1
		MΩ-cm		1.04×10 ⁸	IPC TM-650 2.5.17.1
Surface Resistivity	After moisture resistance E-24/125	MΩ		4.79×10 ⁷	IPC TM-650 2.5.17.1
		MΩ		1.85×10 ⁸	IPC TM-650 2.5.17.1
Electrical Strength ¹⁾	D-48/50+D-0.5/23	kV/mm		85	IPC TM-650 2.5.6.2
Dielectric Breakdown	D-48/50+D-0.5/23	kV		40.5	IPC TM-650 2.5.6
Arc Resistance	D-48/50+D-0.5/23	Sec		180	IPC TM-650 2.5.1
Tg	TMA	°C		>250	IPC TM-650 2.4.24
Td	10°C/min, 2%Wt loss 10°C/min, 5%Wt loss	°C		417	IPC TM-650 2.4.24.6
		°C		429	IPC TM-650 2.4.24.6
T260	TMA	min		>60	IPC TM-650 2.4.24.1
T288	TMA	min		>60	IPC TM-650 2.4.24.1
T300	TMA	min		>60	IPC TM-650 2.4.24.1
CTE (x/y-axis) CTE (z-axis)	50~260°C, α1 α1(Before Tg) (50~260°C)	ppm/°C		12~15	IPC TM-650 2.4.41
		ppm/°C		45	IPC TM-650 2.4.24
		%		1.20	IPC TM-650 2.4.24
Peel Strength to Copper (1OZ)	After Thermal Stress At Elevated Temperatures After Process Solutions	N/mm [lb/in]		1.37 [7.82]	IPC TM-650 2.4.8
				1.20 [6.86]	IPC TM-650 2.4.8.2
				1.25 [7.12]	IPC TM-650 2.4.8
Young's modulus ¹⁾	200°C	GPa		10.3	IPC TM-650 2.4.18.3
Flexural Strength	A 200°C	MPa [lb/in ²]		530 [76,850]	IPC TM-650 2.4.4
		MPa [lb/in ²]		439 [63,655]	IPC TM-650 2.4.4.1
Water Absorption	E-1/105+DES+D-24/23	%		0.26	IPC TM-650 2.6.2.1
Flammability	-	-		HB	UL-94

Remarks: 1.Specimen thickness: 0.1mm. Test method is according to IPC-TM-650.

2.All the specimen thickness: 1.6mm but.

3.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.

Explanations: C=Humidity conditioning; D=Immersion conditioning in distilled water; E=Temperature conditioning.

The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in °C and with the third digit the relative humidity.



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PURCHASING INFORMATION

Laminate SH260

Thickness	Copper foil	Standard Size
0.05mm (.002")	12μm	915×1220mm(36"×48")
~	~	1020×1220mm(40"×48")
2.36mm (.093")	105μm	1070×1220mm(42"×48")

Prepreg SH260B

Glass Type	RC %	Tolerance	Nominal Thickness(μ m)	Dk(1GHz)
106	72	+/-3%	60	3.5
1080	63		85	3.7
2313	55		110	3.85
2116	50		125	4.0

*Other sheet and panel size could be available upon request.

Recommended Process Conditions

Inner-layers Pre-treatment: Bake inner-layers in the shelf for 60 minutes at about 105°C before lamination to get rid of the moisture.

Lamination parameter:

Pressure			Temperature		
Rise min.	Kg/cm ²	Keep min.	Rise min.	°C	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		

*Vacuum: 10torr or less at the beginning.
 *Heat ramp: 1.5-2.5°C/min., between 80°C and 140°C material temperature.
 *Cure time: ≥220°C, 180min.
 *Option for curing: Cure above 185°C for 1.5 hour, post baking for about 3 hours at 230°C.

Drilling: Drilling parameters of high Tg or halogen-free laminate are compatible with SH260, or refer to right chart.

Desmear: Utilize alkaline permanganate or plasma with appropriate parameter. Plasma is preferred after drilling.

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