

LAMINATES AND MORE FOR PCB

ZHEJIANG HUAZHENG – FR4

H140A

Copper clad basic material

H140A is a DICY-hardened Epoxy resin base material with a glass transition temperature Tg of >130°C (DSC) according IPC 4101 / -21. This material is equipped with an AOI and UV-Blocker.

Moreover it complies with RoHS and listed by UL 94 V-0.

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Technical Data

Properties	Unit	Test Condition	Specification			Typical values
Panel Size Tolerance	mm	A IPC-TM-650 2.2.19.1	+10-0 IPC-4101A3.8.4.1			
Glass Transition Temp.	°C	E2/105 DSC IPC-TM-650 2.4.13.1	Tg =135±5 IPC- 4101A3.1 0.1.2.	ΔTG	<3	135.5
Peel Strength	N/mm	A 288°C, 10s IPC-TM-650 2.4.8	0.5 oz. >0.9 >0.88 IPC- 4104A3.1 0.1.2	1 oz >1.10 >1.05	2 oz. >1.43 >1.40	
Thermal Stress	S	288°C, float in solder IPC-TM 650 2.4.13.1	>10 IPC-4101A3.9.1.1			60 s No Delamin- ation
Bow/Twist	%	A IPC-TM-650 2.4.22.1	< 1.0(DSB T>0.51 mm) < 1.5 (SSB T>0.51 mm) IPC-4101A3.8.4.3			
Flexural Strength	N/mm ²	Warp Fill	>415 >345			580 485
Flammability	--	E24/125 IPC-TM-650 2.3.10	UL 94 V-0			V-0
Surface Resistance	MΩ	After moisture IPC-TM-650- 2.5.17.1	>1.0x10 ⁴ IPC 4101A3.11.1.4			5.15 x 10 ⁷
Volume Resistance	MΩ * cm	After moisture IPC-TM- 6502.5.17.1	>1.0x10 ⁶ IPC-4101A3.11.1.3			5.07 x 10 ⁸

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Dielectric constant		--	1 MHZ C24/23/50 IPC TM-650 2.5.5.2	<5.4 IPC-4101A3.11.1.1	4.6
Loss tangent		--	1 MHZ C24/23/50 IPC-TM-650 2.5.5.2	<0.035 IPC-4101A3.11.1.2	0.015
Arc resistivity		s	D48/50-D0.5/23 IPC-TM-650 2.5.1	>40 IPC-4101A3.11.1.5	58
Dimensional Stability		ppm	E2/150 IPC-TM-650 2.4.39	WARP ±300 FILL±300 IPC-4101A3.9.1.2	
Moisture absorption		%	D24/23 IPC-TM-650 2.6.2.1	<0.35 IPC-4101A3.12.1.1	
Td Decomposition Temperature		°C	Weight loss 5 %	--	306
Pressure Vessel		--	100-110kpa/30 min. IPC-TM-650 2.6.16	condition>4 IPC-4101A3.12.1.3	
CTE Z-axis	Alpha 1 Alpha 2 50 – 260 °C	ppm/°C ppm/°C %	TMA	-- -- --	65 310 4.6
Thermal resistance	T260 T288 T300	min	TMA TMA TMA	12 1 --	
CTI		V	IEC-60112	175~250	175



Purchasing information:

Thickness	Copper foil	Standard sizes
0.15 mm~3.2 mm	18µm - 105 µm	37"x49", 41"x 49",43"x49"

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