



SM-780F-8

尚茂電子材料股份有限公司

ShineMore Technology Materials Co., Ltd.

Website: <http://www.shinemore.com.tw/>

UL/ANSI: FR-4.0 UL FILE: E199230

Updated: Nov. 29th, 2017

(IPC-4101/126)

General Specification:

Thickness		Copper Cladding		Standard Size		Special Size (on Request)	
<u>inch</u>	<u>(mm)</u>	<u>oz</u>	<u>(μm)</u>	<u>inch</u>	<u>(mm)</u>	<u>inch</u>	<u>(mm)</u>
0.002	(0.05)	3/8	(12)	36.8 x 48.8	(935 x 1240)	37.0 x 49.0	(941 x 1246)
to		to		40.8 x 48.8	(1035 x 1240)	41.0 x 49.0	(1043 x 1246)
0.125	(3.14)	12	(410)	42.8 x 48.8	(1085 x 1240)	43.0 x 49.0	(1093 x 1246)

Characteristics:

- Resin system: multi-functional Epoxy
- With inorganic fillers
- Woven E-Glass
- HTE or RTF Copper Foil Available
- Compliant with IPC-4101/126

Features:

- Lead-Free FR-4.0 materials compliant with RoHS/ REACH regulations
- High Glass Transition Temperature
- High Decomposition Temperature
- Lower CTE in Z direction
- Designed for FR-4 PCB manufacturing processes
- With UV Blocking function and applicable to AOI technology
- Excellent dimensional stability and thickness uniformity
- Superior thermal and chemical resistance
- Stable electrical properties
- Superior CAF-Resistance and reliability

Applications:

- HLC Server
- Communications Telecom
- Instrumentation/ Industry PC
- Infrastructure/Medical Electronics
- Automotive Electronics



Test Items		Units Metric (English)	Test Condition	IPC Spec.	Typical Value	Test Method (IPC-TM-650)
Electrical	Dielectric Constant (RC 50%)	1GHz	C-24/23/50	—	4.45	2.5.5.9
		5GHz		—	4.38	2.5.5.13
	Dissipation Factor (RC 50%)	1GHz	C-24/23/50	—	0.020	2.5.5.9
		5GHz		—	0.022	2.5.5.13
	Volume Resistivity	MΩ -cm	C-96/35/90	$> 10^6$	$> 10^7$	2.5.17.1
Surface Resistivity	MΩ	C-96/35/90	$> 10^4$	$> 10^6$	2.5.17.1	
Physical	Dimensional stability	ppm	E-4/105+E-2/150	< 300	250	2.4.39
	Moisture absorption	%	E-24/50+D-24/23	< 0.5	< 0.1	2.6.2.1
	Peel strength (1oz)	N/mm	As Received	0.7 (4.0)	>1.31 (7.5)	2.4.8
Thermal	Glass Transition Temp	°C	DSC	>170	>180	2.4.25
			TMA	--	>170	2.4.24.3
			DMA	--	>200	2.4.24.2
	Z-Axis alpha 1	ppm/°C	Before Tg	< 60	< 40	2.4.24
	Z-Axis alpha 2	ppm/°C	After Tg	< 300	< 200	2.4.24
	Z-CTE	%	Expansion (50~260°C)	< 3.0	<2.3	2.4.24
	CTE (X-,Y-axis)	ppm/°C	Pre-Tg	—	12-16	2.4.24
	Thermal resistance	min	TMA (T288°C)	> 15	>60	2.4.24.1
	Decomposition Temp	°C	ASTM D3850 (5% wt loss)	>340	>350	2.4.24.6
	Thermal stress	sec	288°C Solder dipping	> 10	> 120	2.4.13.1
Flame Resistance	—	A&E-24/125	V-0	V-0	UL94	

※Specification Sheet : IPC-4101/126

● Ordering Information :

◎ Phone : +886-3-386-4289

◎ Email : sales@shinemo.com.tw

NOTE:

1. Typical Values are for information purpose only.
2. Any sale of these products will be governed by the terms and conditions of the agreement under which they are sold.