SI10US

Advanced High Modulus Material for PKG Substrate

FEATURES

- Tg≥270°C (DMA), Td>400°C (5% loss, TGA)
- High Flexural Modulus
- Low X/Y/Z-axis CTE
- Halogen-free, compatible with lead-free processing

APPLICATIONS

eMMC, DRAM
AP, PA
Dual CM
Fingerprint modules, RF Modules, etc.

GENERAL PROPERTIES

Property	Test Condition	Metric Units	SI10US
Dielectric Constant*	@1GHz	-	4.4
Dissipation Factor*	@1GHz	-	0.007
Tg	DMA	°C	280
Td	5% wt. loss	°C	>400
Solder Dipping	@288°C	min	>30
CTE(40-260°C)	x/y-axis(α1)	ppm/°C	10
	z-axis(α1/α2)1)	ppm/°C	25/135
Peel Strength to Copper*	1/3 OZ, VLP Cu	N/mm	0.80
Young's modulus	50°C	GPa	26
	200°C	GPa	23
Flexural modulus*	50°C	GPa	32
	200°C	GPa	27
Water Absorption*	A	%	0.14
	85°C/85% RH,168Hr	%	0.35
Flammability	UL 94	-	V-0
Thermal Conductivity	-	W/(m·K)	0.61
color	-	-	black

Remarks:
Specimen thickness: 0.10mm, besides the items with * is for 0.8mm specimen thickness. Test method is according to IPC-TM-650.
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.

PURCHASING INFORMATION

Laminate SI10US

Type	Order Thickness (mm)	Nominal Thickness (mm)	Ply-up
Standard	0.08	0.086	2X1067
	0.10	0.104	2X1078
	0.15	0.156	3X1078
	0.20	0.210	2X2116
M	0.04	0.043	2X1017
	0.05	0.052	2X1027
	0.06	0.060	2X1037
H	0.03	0.033	1X1024
	0.04	0.043	2X1015
	0.05	0.052	2X1024
	0.06	0.066	2X1030

Prepreg SI10NSB

Type	Glass Style	Nominal Thickness (mm)	RC (%)
Standard	1017	0.025	72
	1017	0.030	76
	1027	0.03	65
	1027	0.04	73
	1037	0.04	69
	1037	0.05	75
	1067	0.05	67
	1067	0.06	72
	1078	0.06	59
	1078	0.07	64

*Normal size is 40"X48", other sheet size and thickness could be available upon request.

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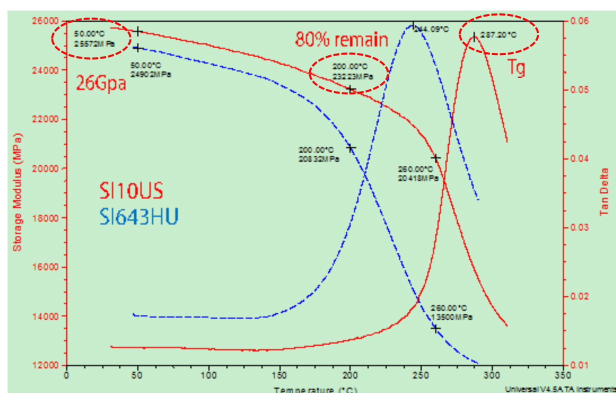
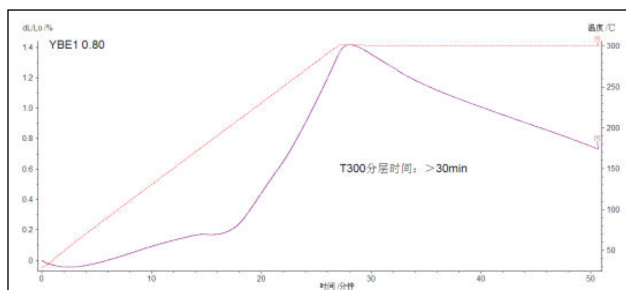
Tg & Modulus



T300

CCL: 0.80 8X2116;   Test method: TMA

No delamination at 300 ℃ after 30mins



Mechanical Drilling

Drilling parameter

CCL: 0.15mmT/T, 6stacks

Drill bit: USF Φ0.11mm, 1.6mm (Jinzhou)

Enter sheet: LE-900 coated aluminum sheet

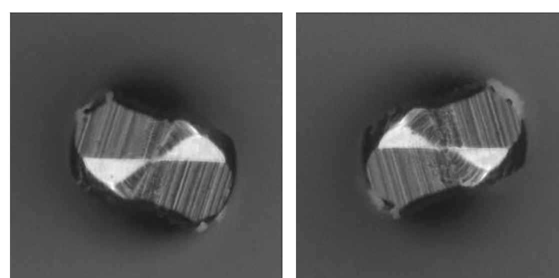
Back board: Bakelite board

Revolution: 195krpm

Feed rate: 1.80m/min

Program: 3000hits

Wearing of drill bit After 3000hits



SI10US SI643HU

Moisture reliability test on 2-layers substrates

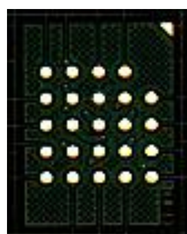
Test sample

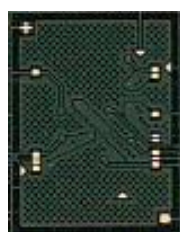
Core: 150μm T/T VLP

SR: 30μm

Outer Cu: 25μm

L/S: 50/50μm





Test condition

precondition: JEDEC MSL-1 (C-168h/85℃/85% RH)

Lead-free reflow X 3 times

Test result

material	1 time	2 times	3 times
SI10US	0/660*	0/660*	0/660*

*No delamination appeared in 660 units