SI10U(S)

Advanced Higher Modulus Material For PKG Substrate

FEATURES

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

APPLICATIONS

eMMC, DRAM
AP, PA
Dual CM
Fingerprint, RF Module, etc.

GENERAL PROPERTIES

Property	Test Condition	Metric Units	SI10U(S)
Dielectric Constant[1)]	@1GHz	-	4.4
Dissipation Factor[1)]	@1GHz	-	0.007
Tg	DMA	℃	280
Td	Wt 5% loss	℃	>400
Solder Dipping	@288℃	min	>30
CTE(40-260℃)	x/y-axis(α1)	ppm/℃	10
	z-axis(α1/α2)1)	ppm/℃	25/135
Peel Strength to Copper[1)]	1/3 OZ, VLP Cu	N/mm	0.80
Young's modulus	50℃	GPa	26
	200℃	GPa	23
Flexural modulus[1)]	50℃	GPa	32
	200℃	GPa	27
Water Absorption[1)]	A	%	0.14
	85℃/85%Rh,168Hr	%	0.35
Flammability	UL 94	-	V-0
Thermal Conductivity	-	W/(m·K)	0.61
color	-	-	black

*Specimen thickness: 0.10mm. Test method is according to IPC-TM-650.

*1): specimen thickness: 0.80mm.

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 SI10U(S)

Type	Thickness (mm)	Actual Thickness (mm)	Glass Fabric Construction
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

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

Prepreg SI10NB(S)

Type	Glass Cloth IPC No.	Nominal Thickness (mm) （inner Cu 100%）	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

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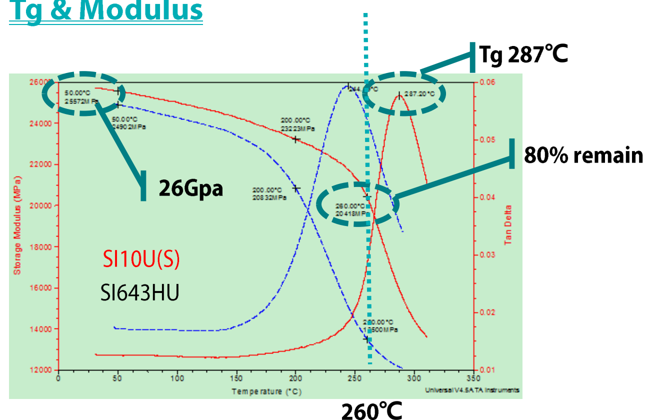
Tg & Modulus



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

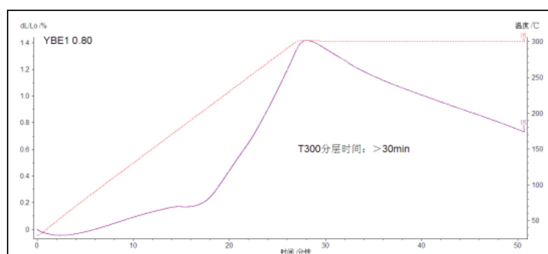
Program： 3000hits

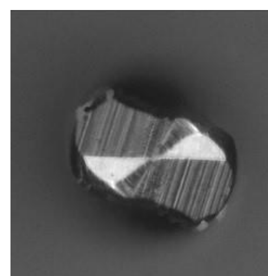
Wearing of drill bit After 3000hits

T300

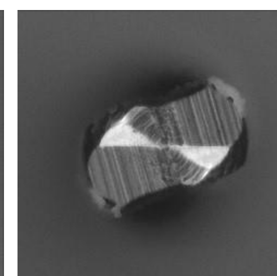
CCL: 0.80 8X2116; Test method: TMA

No delamination at 300 ℃ after 30mins





SI10U(S)



SI643HU

Moisture reliability test on 2-layers substrates

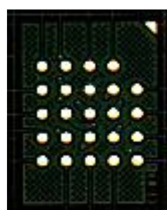
Test sample

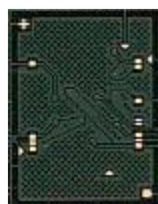
Core: 150μm T/T VLP

SR: 30μm

Outer Cu: 25μm

L/S: 50/50μm





Test condition

precon: JEDEC MSL-1(C-168h/85deg C/85%RH)

Lead free reflow X 3 times

Test result

material	1time	2times	3times
SI10U(S)	0/660*	0/660*	0/660*

*No delamination appearance in 660 units