S1155 (70)

(ANSI: FR-4) Low Df and Halogen-free Material

FEATURES

- Improved signal integrity per low Df feature
- Lead-free compatible with excellent thermal resistance
- Low CTE and consistent dimensional stability
- Excellent CAF resistance

APPLICATIONS

- Antennas and Power Amplifiers
- Middle frequency wireless communication
- Satellite signal transmission equipment
- Microstrip and Cellular Base Station
- LNA/LNB

ENERAL PROPERTIES

Items		Condition	Unit	Property Data	
				Spec	Typical Value
Tg		DSC	℃	≥130	140
Flammability		C-48/23/50 and E-24/125	Rating	V-0	V-0
Volume Resistivity		After moisture resistance	MΩ-cm	≥10^6	2.52E+08
		E-24/125		≥10^3	5.02E+08
Surface Resistivity		After moisture resistance	MΩ	≥10^4	3.68E+07
		E-24/125		≥10^3	5.37E+07
Arc Resistance		D-48/50+D-0.5/23	S	≥60	115
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥40	55
Dielectric Constant	(1GHz)	C-24/23/50	-	-	4.22
	(1MHz)	C-24/23/50	-	≤5.4	4.48
Dissipation Factor	(1GHz)	C-24/23/50	-	-	0.0116
	(1MHz)	C-24/23/50	-	≤0.035	0.0065
Thermal Stress		288℃, solder dip	-	10s No Delamination	100s No Delamination
Peel Strength (1 Oz)		288℃/10s	N/mm	≥1.05	1.5
Flexural Strength		LW	Mpa	≥415	450
		CW		≥345	400
Water Absorption		D-24/23	%	≤0.5	0.10
CTE(Z-axis)		Before Tg	PPM/℃	≤60	41
		After Tg	PPM/℃	≤300	235
		50-260℃	%	≤4.0	3.5
Td		Wt5%loss	℃	≥310	380
T260		TMA	min	≥30	60
T288		TMA	min	≥5	60
T300		TMA	min	-	60

Remarks: All the data listed above can meet IPC-4101/30 requirement.

Specimen thickness: 60mil. RC55%. Test method is according to IPC TM-650.

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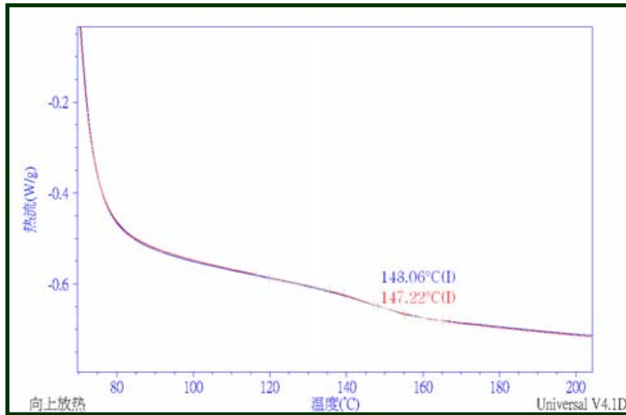
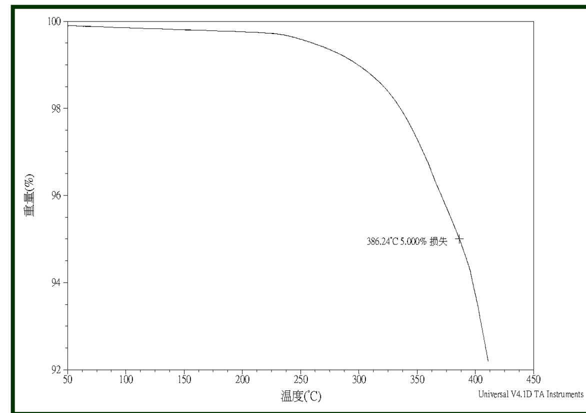
Purchase information

	Standard Dielectric Thickness	Standard Panel Size
Dk4.15-4.25	0.010” (0.254mm), 0.020” (0.508mm), 0.030” (0.762mm), 0.060” (1.524mm) Additional thickness may be available upon request.	36”×48”, 41”×49” Additional panel sizes may be available upon request.

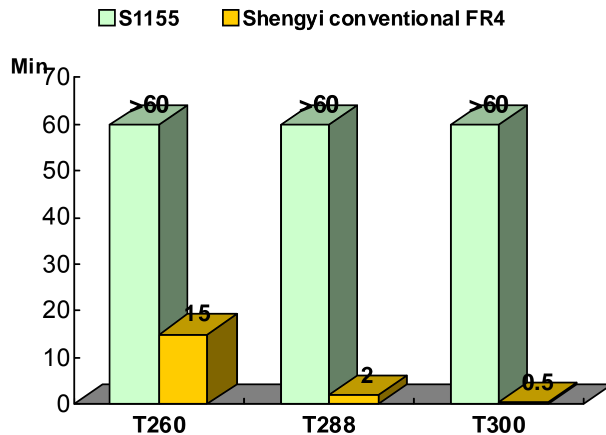
Tg test chart (By DSC)



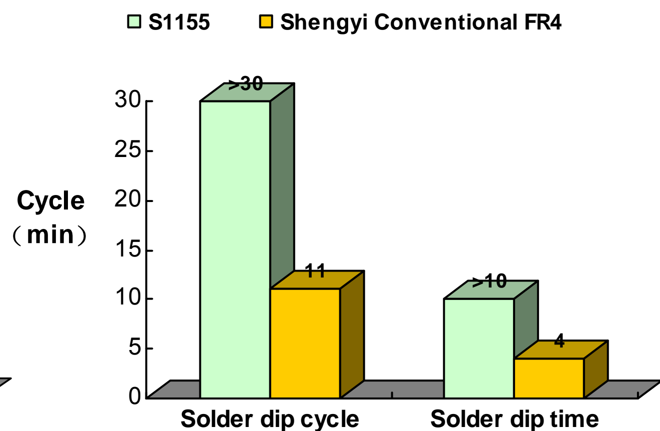
Td test chart



Time to Delamination



Thermal resistance (Solder dipping@ 288℃)



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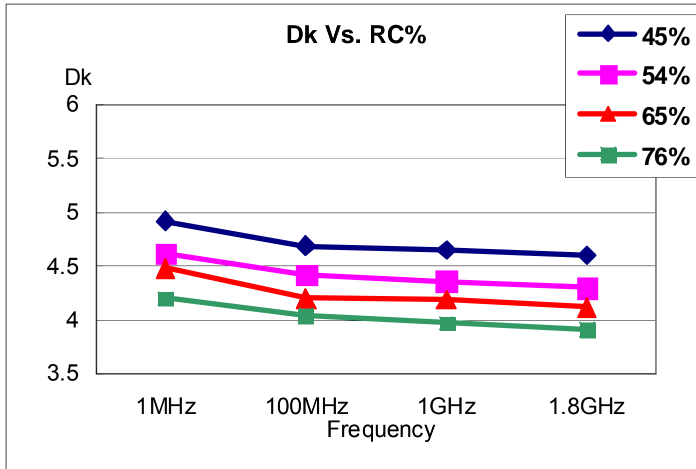
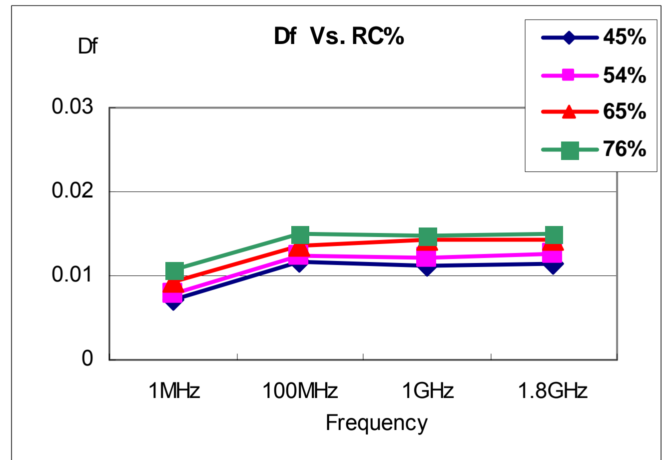
Dk and Df relationship with RC under different frequency



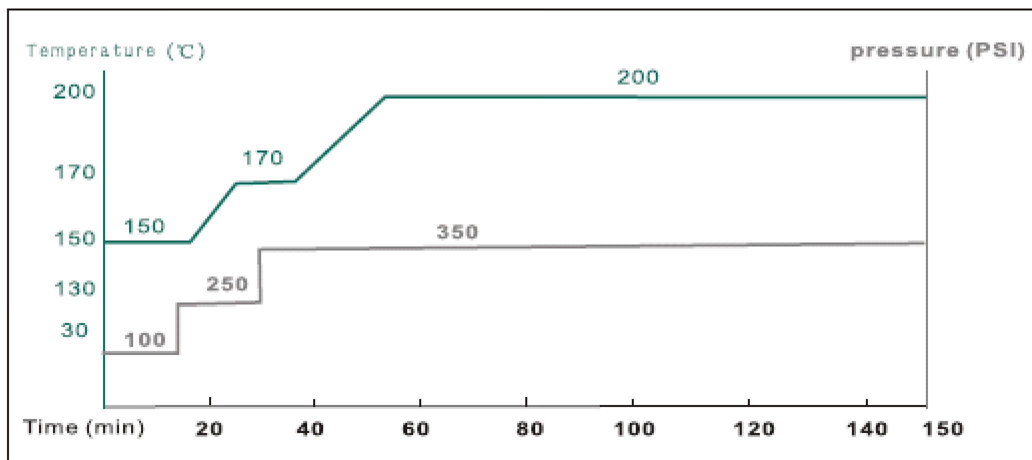


Ply-up construction

mil	mm	RC 55%, Dk4.15-4.25 @ 1GHz
10	0.254	2×2116
20	0.508	4×2116
30	0.762	6×2116
60	1.524	12×2116

Remarks: Laminate thickness and RC could be design upon customer requirement.

Hot Pressing cycle



Heat-up rate: 1.0~2.5℃/min (80~140℃)
Curing time:>45min (180~190℃)
The hot pressing parameters is for your reference only, please turn to Shengyi Sci.Tech.Co., Ltd for detailed information.