IT-859GTABS/IT-859GTA

Metal Base Laminate & Prepreg with Halogen Free Multifunctional Filled and Reinforced Epoxy

IT-859GTA is a Tg of 100℃ (by DSC) halogen free multifunctional filled epoxy with metal base and glass fabric reinforced laminate. It has good thermal conductivity of 3W/mK. It also provide high thermal reliability and can pass 260℃ Lead free assembly.

Key Features ==========

Advanced Resin Technology

Industrial standard material with Tg of 100℃ (by DSC) halogen free multifunctional filled epoxy resin and excellent thermal reliability.

Heat Management Technology

Excellent thermal conductivity of 3W/mK (based on Laird 1KA04 as reference).

Thermal impedance measurement is follow industrial ASTM D5470 standard and referenced to Laird 1KA04.

Lead-Free Assembly Compatible

RoHS compliant and suitable for high thermal reliability needs, and allow Lead free assemblies with a maximum reflow temperature of 260℃.

Available in Variety of Constructions

Available in a various of constructions (single side or double side), copper weights (0.5 to 6 oz). Various aluminum styles (1050, 5052, 6061) and thickness (0.6 to 3.0mm) are all available.

Applications

Notebook Light Bar

LED Lighting Application

LCD TV Light Bar

Automobile Lighting

Traffic Lighting

Street Lamp and Lighting

Industrial Approval

UL 94 V-0

IPC-4101C Spec / 21 for Referance

RoHS Compliant

LAMINATE (IT-859GTA)						
Property	Thickness<0.50 mm [0.0197 in]		Thickness≧0.50 mm [0.0197 in]		Units	Test Method
	Typical Value	Spec	Typical Value	Spec	Metric (English)	IPC-TM-650 (or as noted)
Peel Strength, minimum A. Low profile copper foil and very low profile copper foil - all copper weights > 17µm [0.669 mil] B. Standard profile copper foil 1. After Thermal Stress 2. At 125°C [257 F] 3. After Process Solutions	0.87(5.0) 1.22(7.0) 1.05(6.0) 1.05(6.0)	0.70(4.0) 0.80 (4.57) 0.70 (4.00) 0.55 (3.14)	0.87(5.0) 1.22(7.0) 1.05(6.0) 1.05(6.0)	0.70(4.0) 1.05 (6.00) 0.70 (4.00) 0.80 (4.57)	N/mm (lb/inch)	2.4.8 2.4.8.2 2.4.8.3
Volume Resistivity, minimum A. C-96/35/90 B. After moisture resistance C. At elevated temperature E-24/125	10^{10} -- 10^{10}	10^{6} -- 10^{3}	-- 10^{10} 10^{10}	-- 10^{6} 10^{3}	MΩ-cm	2.5.17.1
Surface Resistivity, minimum A. C-96/35/90 B. After moisture resistance C. At elevated temperature E-24/125	10^{10} - 10^{10}	10^{4} -- 10^{3}	- 10^{10} 10^{10}	--- 10^{4} 10^{3}	MΩ	2.5.17.1
Moisture Absorption, maximum	--	--	0.10	0.8	%	2.6.2.1
Dielectric Breakdown, minimum	--	--	50	--	kV	2.5.6
Permittivity at 1 MHz, maximum (Laminate & Laminated Prepreg)	4.8	5.4	4.8	5.4	--	2.5.5.9
Loss Tangent at 1 MHz, maximum (Laminate & Laminated Prepreg)	0.018	0.035	0.018	0.035	--	2.5.5.9
Flexural Strength, minimum A. Length direction B. Cross direction 	-- -- -- --	-- -- -- --	480 (70,000) 450 (65,400)	415 (60,190) 345 (50,140)	N/mm^2 (lb/in^2)	2.4.4
Arc Resistance, minimum	100	60	100	60	S	2.5.1
Thermal Stress 10 s at 288°C [550.4F],minimum A. Unetched B. Etched	 Pass Pass	 Pass Visual Pass Visual	 Pass Pass	 Pass Visual Pass Visual	Rating	2.4.13.1
Electric Strength, minimum (Laminate & Laminated Prepreg)	1000	--	--	--	Volts/mil	2.5.6.2
Dielectric Withstand Voltage (Hi-Pot)	1000	500	--	--	VDC/mil	*2.5.7.2*
Dielectric Withstand Voltage (Hi-Pot)	500	250	--	--	VAC/mil	*2.5.7.2*
Flammability (Laminate & Laminated Prepreg)	V-0	V-0	V-0	V-0	Rating	UL94
Glass Transition Temperature (DSC)	105	100	105	100	˚C	2.4.25
Decomposition Temperature	--	--	380	360	˚C	2.4.24.6 (5% wt loss)
X/Y Axis CTE (40℃ to 125℃)	--	--	9-11	--	ppm/˚C	2.4.24
Z-Axis CTE A. Alpha 1 B. Alpha 2 C. 50 to 260 Degrees C	 -- -- --	 -- -- --	 40 250 3.5	 -- -- --	 ppm/˚C ppm/˚C %	2.4.24
Thermal Resistance A. T260 B. T288	 -- --	 -- --	 >60 >60	 30 minimum 15 minimum	 Minutes Minutes	2.4.24.1

The above data and fabrication guide provide designers and PCB shop for their reference. We believe that these information are accurate, however, the data may vary depend on the test methods and specification used. The actual sales of the product should be according to specification in the agreement between ITEQ and its customer. ITEQ reserves the right to revise its data at any time without notice and maintain the best information available to users.