

# CS-AL-88/89 L1 (1 W/m°C)



## Specification of Aluminum Based Copper-clad Laminate

Item	Unit		Specification	Test condition
Insulation thickness	μm	Max Min	200 60	—
Solder resistance (288°C)	Sec.	Min	600	IPC-TM-650 2.4.13.1
Thermal shock	288°C*10"/cycle	Min	6 Times	IPC-TM-650 2.4.13.1
Peel strength (Normal status)	lb/in	Min	9	IPC-TM-650 2.4.8
Breakdown Voltage	V/mil		750	IPC-TM-650 2.5.6
Volume resistivity (Normal status >E+14)	Ω · cm		1.8x10 <sup>15</sup>	IPC-TM-650 2.5.17.1
Surface resistivity (Normal status >E+12)	Ω	—	3.5x10 <sup>14</sup>	IPC-TM-650 2.5.17.1
Dielectric constant				IPC-TM-650
1 MHz Normal status	—		5.6	2.5.5.3
1 GHz Normal status			5.3	2.5.5.5 2.5.5.6
Dissipation Factor				IPC-TM-650
1 MHz Normal status			0.013	2.5.5.3
1 GHz Normal status			0.010	2.5.5.5 2.5.5.9
Water absorption	%		0.2	IPC-TM-650 2.6.2.1
Thermal conductivity (measured on insulation layer only)	W/m°C		1.0	ASTM-E1461
Flammability	94V-0		Pass	IPC-TM-650 2.3.9
Td	°C		410	TBD (5wt% loss)
MOT (RTI)	°C		130	UL 746B
CTI (Comparative Tracking Index)	V		>600 (PLC=0)	UL746E DSR



## The thickness and dimension of Aluminum Based Copper-clad Laminate

Product category	CS-AL-88/89 L1 (The thickness of resin is 2~8mil)					
Dimension m/m	300~340×500~520 405/400×500~520 600~620×500~520 1200~1240×500~520 1200~1240×1020~1060					
Normal thickness spec of Single-Sided MCCL with Aluminum Substrate	2.0 1/0	1.5 1/0	1.0 1/0	0.8 1/0	0.6 1/0	
Normal thickness spec of Double-Sided MCCL with Aluminum Substrate	2.0 1/1	1.5 H/H	1.5 1/1	1.0 1/1	0.8 1/1	

- » The above thicknesses exclude the thickness of resin, and the thickness of copper and Aluminum can be combined arbitrarily.  
The thickness of copper foil : H oz ~ 5.0 oz. The thickness of aluminum plate : 0.2 ~ 5.0mm.  
Aluminum:1050,1060,1100 Anodizing
- » Halogenfree material.
- » Compliance with the RoHS and REACH.



## The scope of application

- » Lighting : LED outer-wall lighting, LED stage lighting, LED street lighting, LED indoor lighting, office LED lighting
- » Electronic devices in automobile : Ignition device, voltage regulator, auto safety control system, AC converter, etc.
- » Power supply : Switch regulator, switch, DC-DC converter, DC-AC converter, MEGA power supply, solar power board.
- » Electronic control : Relay, transistor base, switchboard, radiator, insulating conductive board in semiconductor, motor control device.
- » Computer devices : Power supply device, soft disk driver, CPU.
- » Communication : Automobile telephone, high frequency booster mobile telephone, filter, transmitting circuit.