Elite Material Co., Ltd. *Technical Data*

http:\\www.emctw.com

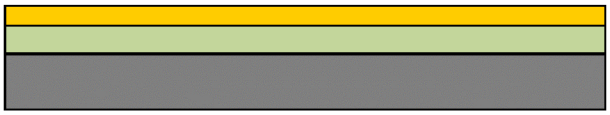
EM-M1 Series

Metal base material for Thermal Management

Thermal conductive, Halogen free and Reliable

EM-M series products are specially designed for Wide needed of Thermal management application. These products are developed by EMC, known as one of the best CCL maker. EM-M1 series products provide good thermal conductivity, excellent reliability and green environment conformity.

MCCCL (Metal Core Copper Clad Laminate)



ED Copper Thickness : EM-M1 (30) :H~3 oz
EM-M1 (20) 1 oz & 2 oz

Dielectric layer thickness : EM-M1 (30) 100um
EM-M1 (20) 75um / 100um

Metal type : AL 5052 H32 0.5mm~2.5mm
RA Copper C1100 0.5mm~1.5mm

EM-M series basic property

Item		Test method	unit	EM-M1 (20)	EM-M1 (30)
Thickness		Micro-section	um	100	100
Thermal conductivity		ASTM E 1461	W/m*k	2.8	3.0
		ASTM D 5470		1.57	1.70
Thermal resistance		ASTM D 5470	℃/W	0.110	0.105
Hi-pot withstand		Ref. IPC-TM-650 2.5.7	KV (AC)	4	3
Tg (Glass transition Temp.)		IPC-TM-650 2.4.25	℃	140 (DMA)	170 (DSC)
Td (Decomposition Temp.)		IPC-TM-650 2.4.40	℃	400	370
CTE, Z-axis	< Tg	IPC-TM-650 2.5.24	ppm/℃	25	20
	> Tg	IPC-TM-650 2.5.24	ppm/℃	90	60
Water absorption		IPC-TM-650 2.6.2.1	%	0.13	0.17
Peel strength (1 oz)		IPC-TM-650 2.4.8	-	8.0	5.0
Permittivity at 1 GHz		IPC-TM-650 2.5.5.3	-	5.9	5.0
Loss tangent at 1 GHz		IPC-TM-650 2.5.5.3	-	0.011	0.017
Volume resistance		IPC-TM-650 2.5.17.1	Ω-cm	10^{14}	10^{15}
Surface resistance		IPC-TM-650 2.5.17.1	Ω	10^{12}	10^{14}

NOTE :

1. The data in this document is only reference data , and do not represent a guarantee of the values for each property.
2. POCO(Graphite) standard sample of CP be used for ASTM E 1461.

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