



High thermal conductivity Low transmission loss Halogen-free Multi-layer circuit board materials

高熱伝導率・低伝送損失ハロゲンフリー多層基板材料

XPEDION T1

Laminate **R-5575**

Prepreg **R-5470**

Applications 用途

Power amplifier board (Base station for wireless communication, Small cell),
Antenna (Automotive millimeter-wave radar, Base station), Etc.

パワーアンプ基板（無線通信基地局、スモールセル）、
アンテナ（車載ミリ波レーダ、基地局）など



Automotive
オートモーティブ



Wireless
ワイヤレス通信

Leveraging multi-layer processability, low transmission loss, high thermal conductivity and Halogen-free, these materials are suitable for miniaturized and 5G small cell PCBs.

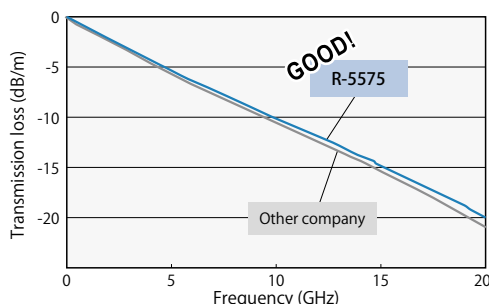
ハロゲンフリー、低伝送損失、高熱伝導性を兼ね備え、多層成型性で“5G”における基地局の小型化や安定稼働に貢献

Dk 3.6 Df 0.005
@10GHz

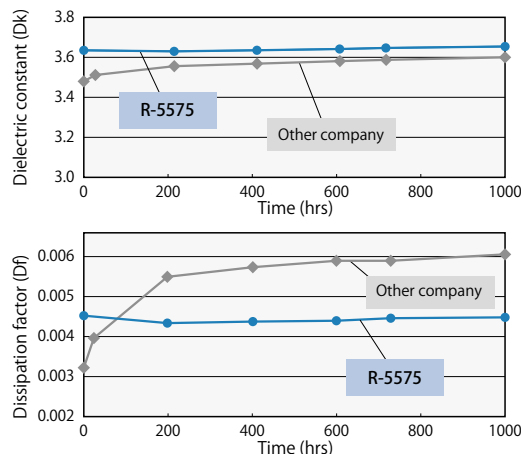
Thermal conductivity
0.60W/m·K

Tg (DMA)
245°C

Frequency dependence by Transmission loss 伝送損失比較



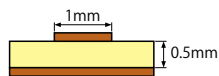
Long-term stability under High temperature (Dk, Df) 高温環境下における長期安定性 (Dk, Df)



- Measurement method : Balanced type circular disk resonance method
- Aging Temperature : 125°C (without humidity control)
- Measurement frequency : 18GHz

Construction

Microstrip line



Item	R-5575	Other company
Line length	1000mm	1000mm
Impedance	50±1Ω	50±1Ω
Copper thickness	18μm→ +20μm plating	18μm→ +20μm plating
Copper	RT	ST
Core	0.5mm	0.5mm

General properties 一般特性

Item	Test method	Condition	Unit	Halogen-free R-5575	Other company
Glass transition temp.(Tg)	DMA	A	°C	245	Tg less
CTE z-axis	$\alpha 1 / \alpha 2$	IPC-TM-650 2.4.24	A	ppm/°C	21/42
T288(with copper)	IPC-TM-650 2.4.24.1	A	min	>120	>120
Thermal conductivity	Laser flash	A	W/m·K	0.6	0.6
Dielectric constant(Dk)	10GHz	Cavity resonance	C-24/23/50	-	3.6
					3.5
Dissipation factor(Df)					0.004
Peel strength*	1oz(35μm)	IPC-TM-650 2.4.8	A	kN/m	0.80
Flammability	UL	C-48/23/50	-	94V-0(HF)	94V-0(Br)

The sample thickness is 0.5mm.

* RT Copper

Our Halogen-free materials are based on JPCA-ES-01-2003 standard and others. 当社ハロゲンフリー材料は、JPCA-ES-01-2003などの定義によるものです。The above data are typical values and not guaranteed values. 上記データは当社測定による代表値であり、保証値ではありません。

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