



Halogen-free Ultra-low transmission loss Multi-layer circuit board materials

ハロゲンフリー超低伝送損失多層基板材料

Halogen-free
MEGTRON6
Laminate R-5375(N)* R-5375(E)
Prepreg R-5370(N)* R-5370(E)
*Low Dk glass cloth type

Applications 用途

ICT infrastructure equipment, High speed networking(High-end server/ router, Optical network, switch), High layer count PCB, Etc.

ICT インフラ機器、高速通信機器 (ハイエンドサーバ、ルータ、光ネットワーク、スイッチ)、高多層基板など



The industry standard high speed, ultra-low loss material.
Transmission loss is located at the level of MEGTRON6 R-5775 to MEGTRON7 R-5785(N).
Excellent HDI and thermal performance with Halogen free.

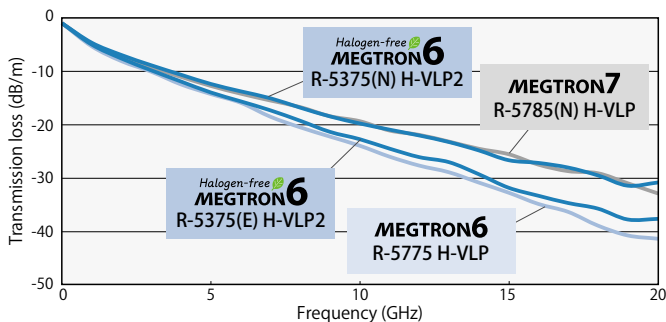
超高性能サーバやルータ向けのデファクトスタンダード材料にハロゲンフリーを付与。
MEGTRON6 を超える低伝送ロスを実現し、超高性能サーバやルータの性能向上に貢献

Dk 3.4 Df 0.003
@ 12GHz

Tg (DMA)
250°C

T320 (with copper)
>120min.

Frequency dependence by Transmission loss 伝送損失比較



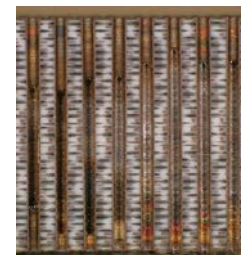
Heat resistance of High Multi-layer 高多層耐熱性

Result

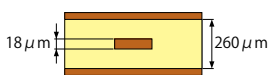
Drill diameter	φ 0.3mm	
Wall to wall distance	0.3mm	0.5mm
Halogen-free MEGTRON6 R-5375(E)	Pass	Pass

Condition
260°C reflow x 10times

Construction
32 Layers
Board thickness: 4.5mm



Construction



Line length	200mm, 100mm
Line width	125 μm
Impedance	50Ω
Inner Cu treatment	No-surface treatment
Core	0.13mm
Prepreg	#2116 56% x 1ply

General properties 一般特性

Item	Test method	Condition	Unit	Halogen-free MEGTRON6 R-5375(N) Low Dk glass cloth	Halogen-free MEGTRON6 R-5375(E) E glass cloth	MEGTRON6 R-5775 E glass cloth
Glass transition temp.(Tg)	DMA (1Hz)	A	°C	250	250	210 ^{*1}
Thermal expansion	TMA (Z direction)	50-260°C	%	1.7	1.7	2.9
T288(with copper)	IPC-TM-650 2.4.24.1	A	min	>120	>120	>120
T320(with copper)				>120	>120	50
Dielectric constant(Dk)	12GHz	Balanced -type circular disk resonator	C-24/23/50	-	3.4	3.7
Dissipation factor(Df)					0.003	0.004
Peel strength	1oz(35 μm)	IPC-TM-650 2.4.8	A	kN/m	0.6 ^{*2}	0.6 ^{*2}
					0.8 ^{*3}	

The sample thickness is 0.75mm.
*1 10Hz *2 H-VLP2 Copper *3 H-VLP 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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