



# 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 between MEGTRON6 R-5775(K)/R-5775(G) and MEGTRON7 R-5785(N).

Excellent HDI and thermal performance.

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。

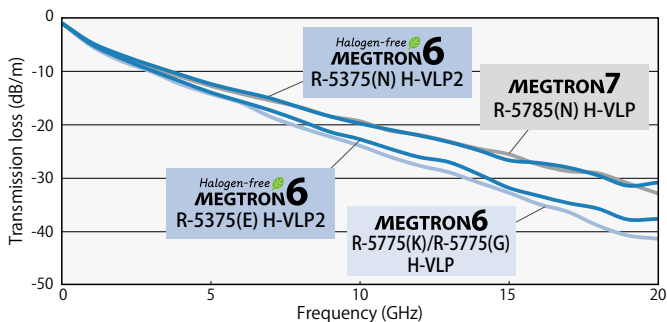
MEGTRON6 を超える低伝送ロスを実現し、超高性能サーバやルータの性能向上に貢献

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



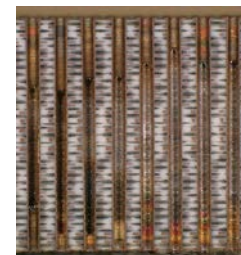
### Heat resistance of High Multi-layered 高多層耐熱性

#### Result

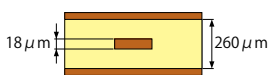
Drill diameter	φ 0.3mm	
Wall to wall distance	0.3mm	0.5mm
Halogen-free MEGTRON6 R-5375(E)	Pass	Pass

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(K)/R-5775(G) E glass cloth	
Glass transition temp.(Tg)	DMA (1Hz)	A	°C	250	250	210 <sup>*1</sup>	
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	3.6	
Dissipation factor(Df)				0.003	0.004	0.004	
Peel strength	1oz(35 μm)	IPC-TM-650 2.4.8	A	kN/m	0.6 <sup>*2</sup>	0.6 <sup>*2</sup>	0.8 <sup>*3</sup>

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。

Please see the page for "Notes before you use" 商品のご採用に当たっての注意事項は こちら