

**Dk 3.08 Df 0.0012
@14GHz**

Tg (DMA) 220°C

**T288 (with copper)
>120min**

**Applications
Network / Wireless**

Routers, Switches, Optical Transmission Equipment, Servers, AI Servers, Base Stations, Semiconductor Test Equipment, Probe Cards.

MEGTRON8S MEGTRON8

Laminate
R-5795S(U)/(N)

Prepreg
R-5690S(U)/(N)

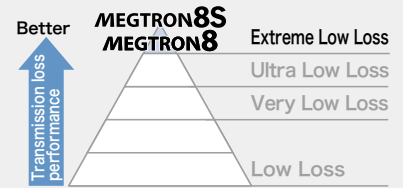
(U): Ultra-low Df glass cloth type
(N): Low Dk glass cloth type

Laminate
R-5795(U)/(N)

Prepreg
R-5690(U)/(N)

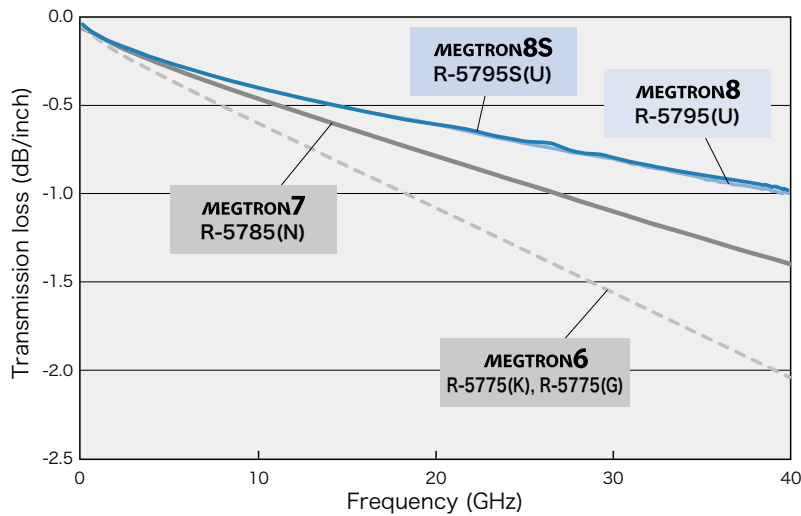
Ultra-low transmission loss, highly heat-resistant multi-layer circuit board materials

The new materials support 800GbE used for next-generation high-speed communication technology. Comparison of MEGTRON8 R-5795(U) and MEGTRON7 R-5785(N), improving transmission loss by about 30% (@28GHz).



Frequency dependence by transmission loss

About 30% improvement in transmission loss compared to MEGTRON8 R-5795(U), MEGTRON7 R-5785(N)*



* Improvement at 28GHz

$$\frac{\Delta \text{Transmission loss (MEGTRON7-MEGTRON8)}}{\text{Transmission loss (MEGTRON7)}} \times 100 \approx 30(\%)$$

Evaluation sample (cross section)



PCB construction	3L PCB Strip line
Copper thickness	18 μm (IL)
Core	0.13mm
Prepreg	0.15mm
Z ₀ Impedance	50Ω
Inner treatment	No-surface treatment
Measurement method	2 port S-parameter
Frequency range	0.2 - 40GHz
De-embedded	Multiline TRL method

The above data are typical values and not guaranteed values.

General properties

Item	Test method	Condition	Unit	MEGTRON8S R-5795S(U)	MEGTRON8S R-5795S(N)	MEGTRON8 R-5795(U)	MEGTRON8 R-5795(N)	
				Ultra-low Df glass cloth	Low Dk glass cloth	Ultra-low Df glass cloth	Low Dk glass cloth	
Tg	DMA	A	°C	220	220	220	220	
CTE z-axis	α 1	IPC-TM-650 2.4.24	A	ppm/°C	35	35	50	50
					α 2	240	240	270
T288(with copper)	IPC-TM-650 2.4.24.1	A	min	>120	>120	>120	>120	
Dk	Balanced-type circular disk resonator method	C-24/23/50	-	3.19	3.22	3.08	3.13	
Df				0.0012	0.0015	0.0012	0.0016	
Peel strength	1oz(35μm)	IPC-TM-650 2.4.8	A	kN/m	0.7 [H-VLP3]	0.7 [H-VLP3]	0.7 [H-VLP3]	0.7 [H-VLP3]

The sample thickness is 0.75mm.

Please see our website for Notes before you use.

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industrial.panasonic.com/ww/electronic-materials

Panasonic Industry MEGTRON8S MEGTRON8