Panasonic

Data Sheet

High Speed, Low Loss Multi-layer Materials

MEGTRON6

Laminate R-5775
Prepreg R-5670

Apr. 2021 No.21041929

Partnering to go beyond.

Electronic Materials
Panasonic Corporation

Specification / Laminate R-5775

Property			Units	Test Method	Condition	Typical Value
THERMAL	Glass Transition Temp (Tg)		C	DSC	As received	185
				DMA	As received	210
	Thermal Decomposition Temp (Td)		C	TGA	As received	410
	Time to Delam (T288)	Without Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
		With Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
	CTE : α1	X - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Y - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Z - axis	ppm / C	IPC TM-650 2.4.24	< Tg	45
	CTE : α2	Z - axis	ppm / C	IPC TM-650 2.4.24	> Tg	260
ELECTRICAL	Volume Resistivity		MΩ - cm	IPC TM-650 2.5.17.1	C-96/35/90	1×10^{9}
	Surface Resistivity		MΩ	IPC TM-650 2.5.17.1	C-96/35/90	1×10^{8}
	Dielectric Constant (Dk)	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	3.71
		@ 12GHz	-	*Note 1	C-24/23/50	3.63
	Dissipation Factor (Df)	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	0.002
		@ 12GHz	-	*Note 1	C-24/23/50	0.004
PHYSICAL	Water Absorption		%	IPC TM-650 2.6.2.1	D-24/23	0.14
	Peel Strength	1oz (H-VLP)	kN / m	IPC TM-650 2.4.8	As Received	0.8
	Flammability		-	UL	C-48/23/50	94V-0

Sample thickness : 29.5 mil = 0.750 mm (Core Type 30)
Note 1 : Balanced-Type Circular Disk Resonance Method

* The data in the above table are not guaranteed values.

Specification / Laminate R-5775(K)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Dk									
	mil	mm				1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
2	2.0	0.050	1035	1	65	3.46	3.39	3.38	3.37	3.37	3.37	3.37	3.37	3.37	3.37
2.6	2.6	0.065	1080	1	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
2.6	2.6	0.065	1078	1	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
3	3.0	0.075	1078	1	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
3.5	3.5	0.090	1078	1	68	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
4	3.9	0.100	3313	1	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
4	3.9	0.100	1035	2	65	3.46	3.39	3.38	3.37	3.37	3.37	3.37	3.37	3.37	3.37
5	5.0	0.127	1078	2	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
5	4.9	0.125	2116	1	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
5	5.1	0.130	1080	2	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
6	5.7	0.146	1078	2	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
6	5.9	0.150	1080	2	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
7	7.0	0.178	1078	2	68	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
8	7.9	0.200	3313	2	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
10	9.8	0.250	2116	2	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
12	11.8	0.300	3313	3	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
16	15.7	0.400	3313	4	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
20	19.7	0.500	2116	4	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
25	24.6	0.625	2116	5	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
30	29.5	0.750	2116	6	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62

* The data in the above table are not guaranteed values.

Specification / Laminate R-5775(K)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Df									
	mil	mm				1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
2	2.0	0.050	1035	1	65	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
2.6	2.6	0.065	1080	1	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
2.6	2.6	0.065	1078	1	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
3	3.0	0.075	1078	1	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
3.5	3.5	0.090	1078	1	68	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
4	3.9	0.100	3313	1	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
4	3.9	0.100	1035	2	65	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
5	5.0	0.127	1078	2	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
5	4.9	0.125	2116	1	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
5	5.1	0.130	1080	2	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
6	5.7	0.146	1078	2	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
6	5.9	0.150	1080	2	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
7	7.0	0.178	1078	2	68	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
8	7.9	0.200	3313	2	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
10	9.8	0.250	2116	2	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
12	11.8	0.300	3313	3	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
16	15.7	0.400	3313	4	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
20	19.7	0.500	2116	4	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
25	24.6	0.625	2116	5	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
30	29.5	0.750	2116	6	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5670(K)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk									
			1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
1027	75	49	3.28	3.21	3.20	3.19	3.19	3.19	3.19	3.19	3.19	3.19
1035	70	60	3.35	3.28	3.27	3.26	3.26	3.26	3.26	3.26	3.26	3.26
	73	68	3.29	3.23	3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21
	75	74	3.28	3.21	3.20	3.19	3.19	3.19	3.19	3.19	3.19	3.19
1080	64	76	3.47	3.40	3.39	3.38	3.38	3.38	3.38	3.38	3.38	3.38
	68	87	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
1078	64	77	3.47	3.40	3.39	3.38	3.38	3.38	3.38	3.38	3.38	3.38
	68	89	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
	72	104	3.31	3.24	3.23	3.22	3.22	3.22	3.22	3.22	3.22	3.22
	75	118	3.28	3.21	3.20	3.19	3.19	3.19	3.19	3.19	3.19	3.19
3313	54	98	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
	57	106	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
2116	54	125	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
	56	132	3.67	3.60	3.59	3.58	3.58	3.58	3.58	3.58	3.58	3.58

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5670(K)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Df									
			1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
1027	75	49	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
1035	70	60	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	73	68	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	75	74	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
1080	64	76	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	68	87	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
1078	64	77	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	68	89	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	72	104	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	75	118	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
3313	54	98	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
	57	106	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
2116	54	125	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
	56	132	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006

* The data in the above table are not guaranteed values.

Specification / Laminate R-5775(G)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Dk									
	mil	mm				1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
2	2.0	0.050	1035	1	65	3.46	3.39	3.38	3.37	3.37	3.37	3.37	3.37	3.37	3.37
2.0	2.0	0.050	1067	1	64	3.47	3.40	3.39	3.38	3.38	3.38	3.38	3.38	3.38	3.38
2.6	2.6	0.065	1080	1	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
2.6	2.6	0.065	1078	1	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
3	3.0	0.075	1078	1	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
3.5	3.5	0.090	1078	1	68	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
4	3.9	0.100	3313	1	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
4	3.9	0.100	1035	2	65	3.46	3.39	3.38	3.37	3.37	3.37	3.37	3.37	3.37	3.37
5	5.0	0.127	1078	2	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
5	4.9	0.125	2116	1	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
5	5.1	0.130	1080	2	57	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
6	5.7	0.146	1078	2	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
6	5.9	0.150	1080	2	63	3.49	3.42	3.41	3.40	3.40	3.40	3.40	3.40	3.40	3.40
7	7.0	0.178	1078	2	68	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
8	7.9	0.200	3313	2	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
10	9.8	0.250	2116	2	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
12	11.8	0.300	3313	3	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
16	15.7	0.400	3313	4	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
20	19.7	0.500	2116	4	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
22	21.9	0.555	7628	3	42	4.07	4.00	3.99	3.98	3.98	3.98	3.98	3.98	3.98	3.98
25	24.6	0.625	2116	5	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
29	29.1	0.740	7628	4	42	4.07	4.00	3.99	3.98	3.98	3.98	3.98	3.98	3.98	3.98
30	29.5	0.750	2116	6	54	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
37	36.4	0.925	7628	5	42	4.07	4.00	3.99	3.98	3.98	3.98	3.98	3.98	3.98	3.98

* The data in the above table are not guaranteed values.

Specification / Laminate R-5775(G)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Df									
	mil	mm				1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
2	2.0	0.050	1035	1	65	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
2.0	2.0	0.050	1067	1	64	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
2.6	2.6	0.065	1080	1	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
2.6	2.6	0.065	1078	1	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
3	3.0	0.075	1078	1	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
3.5	3.5	0.090	1078	1	68	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
4	3.9	0.100	3313	1	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
4	3.9	0.100	1035	2	65	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
5	5.0	0.127	1078	2	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
5	4.9	0.125	2116	1	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
5	5.1	0.130	1080	2	57	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
6	5.7	0.146	1078	2	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
6	5.9	0.150	1080	2	63	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
7	7.0	0.178	1078	2	68	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
8	7.9	0.200	3313	2	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
10	9.8	0.250	2116	2	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
12	11.8	0.300	3313	3	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
16	15.7	0.400	3313	4	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
20	19.7	0.500	2116	4	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
22	21.9	0.555	7628	3	42	0.002	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006
25	24.6	0.625	2116	5	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
29	29.1	0.740	7628	4	42	0.002	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006
30	29.5	0.750	2116	6	54	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
37	36.4	0.925	7628	5	42	0.002	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5670(G)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk									
			1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
1027	75	49	3.28	3.21	3.2	3.19	3.19	3.19	3.19	3.19	3.19	3.19
1035	70	60	3.35	3.28	3.27	3.26	3.26	3.26	3.26	3.26	3.26	3.26
	73	68	3.29	3.23	3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21
	75	74	3.28	3.21	3.20	3.19	3.19	3.19	3.19	3.19	3.19	3.19
1067	69	59	3.38	3.31	3.30	3.29	3.29	3.29	3.29	3.29	3.29	3.29
	72	67	3.31	3.24	3.23	3.22	3.22	3.22	3.22	3.22	3.22	3.22
	74	72	3.29	3.22	3.21	3.20	3.20	3.20	3.20	3.20	3.20	3.20
1080	64	76	3.47	3.40	3.39	3.38	3.38	3.38	3.38	3.38	3.38	3.38
	68	87	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
1078	64	77	3.47	3.40	3.39	3.38	3.38	3.38	3.38	3.38	3.38	3.38
	68	89	3.41	3.34	3.33	3.32	3.32	3.32	3.32	3.32	3.32	3.32
	72	104	3.31	3.24	3.23	3.22	3.22	3.22	3.22	3.22	3.22	3.22
	75	118	3.28	3.21	3.20	3.19	3.19	3.19	3.19	3.19	3.19	3.19
3313	54	98	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
	57	106	3.65	3.58	3.56	3.55	3.55	3.55	3.55	3.55	3.55	3.55
2116	54	125	3.71	3.64	3.63	3.62	3.62	3.62	3.62	3.62	3.62	3.62
	56	132	3.67	3.6	3.59	3.58	3.58	3.58	3.58	3.58	3.58	3.58

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5670(G)

1GHz ; IPC TM650-2.5.5.9
6-50GHz ; Balanced-Type Circular Disk Resonance Method

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Df									
			1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
1027	75	49	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
1035	70	60	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	73	68	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	75	74	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
1067	69	59	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006
	72	67	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	74	72	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
1080	64	76	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	68	87	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
1078	64	77	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	68	89	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006
	72	104	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
	75	118	0.002	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.006
3313	54	98	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
	57	106	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
2116	54	125	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006
	56	132	0.002	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006

* The data in the above table are not guaranteed values.

++ Before purchase ++

【Notes before you use】

- Please verify the suitability and fitness for intended application by quality testing, evaluation or other means at your own option before any adoption, use or change of use conditions of a product listed in the datasheet.
- We would like to have a delivery specifications mutually agreed for the product that you have decided to use. The agreements defined in the delivery specifications are assigned higher priority.
- Please note that images shown may somewhat differ from the actual product in color.
- Please note that specifications and external design are subject to change for product improvement without notice.
- For details on products in the datasheet, please contact your distributor or our sales department.

【Safety Information】

- Before using the product, please read the delivery specifications carefully or contact the distributor from which you purchased the product or our sales department in order to use the product correctly.
- The products in the datasheet are Electronic circuit board materials for electronic and electrical devices. Please do not use them for other than specified use.

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Panasonic Corporation
Industrial Solutions Company
Electronic Materials Business Division
Circuit Board Materials Business Unit.
Head Office: 1006 Kadoma, Kadoma City, Osaka 571-8506
TEL: 81-6-6908-1101
industrial.panasonic.com/ww/electronic-materials