

Property	Typical Value ⁽¹⁾				Direction	Unit	Condition	Test Method
	RO3003	RO3035	RO3006	RO3010				
Dielectric Constant, ϵ_r Process	3.00 ± 0.04	3.50 ± 0.05	6.15 ± 0.15	10.2 ± 0.30	Z	-	10 GHz 23°C	IPC-TM-650 2.5.5.5 Clamped Stripline
⁽²⁾ Dielectric Constant, ϵ_r Design	3.00	3.60	6.50	11.20	Z	-	8 GHz - 40 GHz	Differential Phase Length Method
Dissipation Factor, tan δ	0.0010	0.0015	0.0020	0.0022	Z	-	10 GHz 23°C	IPC-TM-650 2.5.5.5
Thermal Coefficient of ϵ_r	-3	-45	-262	-395	Z	ppm/°C	10 GHz -50 to 150°C	IPC-TM-650 2.5.5.5
Dimensional Stability	-0.06 0.07	-0.11 0.11	-0.27 -0.15	-0.35 -0.31	X Y	mm/m	COND A	IPC TM-650 2.2.4
Volume Resistivity	10 ⁷	10 ⁷	10 ⁵	10 ⁵		MΩ·cm	COND A	IPC 2.5.17.1
Surface Resistivity	10 ⁷	10 ⁷	10 ⁵	10 ⁵		MΩ	COND A	IPC 2.5.17.1
Tensile Modulus	930 823	1025 1006	1498 1293	1902 1934	X Y	MPa	23°C	ASTM D638
Moisture Absorption	0.04	0.04	0.02	0.05	-	%	D48/50	IPC-TM-650 2.6.2.1
Specific Heat	0.9		0.86	0.8		J/g/K		Calculated
Thermal Conductivity	0.50	0.50	0.79	0.95	-	W/m/K	50°C	ASTM D5470
Coefficient of Thermal Expansion (-55 to 288 °C)	17 16 25	17 17 24	17 17 24	13 11 16	X Y Z	ppm/°C	23°C/50% RH	IPC-TM-650 2.4.41
Td	500	500	500	500		°C TGA		ASTM D3850
Density	2.1	2.1	2.6	2.8		gm/cm ³	23°C	ASTM D792
Copper Peel Strength	12.7	10.2	7.1	9.4		lb/in	1 oz. EDC After Solder Float	IPC-TM-2.4.8
Flammability	V-0	V-0	V-0	V-0				UL 94
Lead Free Process Compatible	YES	YES	YES	YES				

Standard Thickness	Standard Panel Size	Available Copper Cladding
RO3003/RO3035: 0.005" (0.13mm) 0.010" (0.25mm) 0.020" (0.50mm) 0.030" (0.75mm) 0.060" (1.52mm)	12" X 18" (305 X 457mm) 24" X 18" (610 X 457mm)	¼ oz. (9µm) electrodeposited copper foil (HQ/HQ) ½ oz. (17µm) electrodeposited copper foil (HH/HH) 1 oz. (35µm) electrodeposited copper foil (H1/H1) 2 oz. (70µm) electrodeposited copper foil (H2/H2) ½ oz. (17µm) reverse treated electrodeposited cu foil (SH/SH) 1 oz. (35µm) reverse treated electrodeposited cu foil (S1/S1) 2 oz. (70µm) reverse treated electrodeposited cu foil (S2/S2)
RO3006/RO3010: 0.005" (0.13mm) 0.010" (0.25mm) 0.025" (0.64mm) 0.050" (1.28mm)		RO3003 & RO3035 laminates also available with ½, 1 and 2 oz. rolled copper foil RO3003 5 mil thick laminates also available with 6 oz. rolled copper foil and 0.040" rolled copper plate Other claddings may be available. Contact customer service.

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