ROGERS CORPORATION

Data Sheet

Electrical Properties[1]	AD250C	AD255C	AD260A	Units	Test Conditions		Test Method
PIM (30mil/60mil)[2]	-159/-163	-159/-163	-159/-163	dBc	Reflected 43 dBm swept tones at 1900 MHz, S1/S1		Rogers Internal 50 ohm
Dielectric Constant (process)	2.52	2.55	2.60	-	23°C @ 50% RH	10 GHz	IPC TM-650 2.5.5.5 (IPC TM-650 2.5.5.3)
Dielectric Constant (design)	2.50	2.60	2.65	-	C-24/23/50	10 GHz	Microstrip Differential Phase Length
Dissipation Factor (process)	0.0013	0.0013	0.0017	-	23°C @ 50% RH	10 GHz	IPC TM-650 2.5.5.5
Thermal Coefficient of Dielectric Constant	-117	-110	-148	ppm/°C	0°C to 100°C	10 GHz	IPC TM-650 2.5.5.5
Volume Resistivity	4.8×10^8	7.4×10^8	1.1×10^9	Mohm-cm	C-96/35/90	-	IPC TM-650 2.5.17.1
Surface Resistivity	4.1×10^7	3.6×10^7	5.3×10^7	Mohm	C-96/35/90	-	IPC TM-650 2.5.17.1
Electrical Strength (dielectric strength)	979	911	1072	V/mil	-	-	IPC TM-650 2.5.6.2
Dielectric Breakdown	>40	>40	>40	kV	D-48/50	X/Y direction	IPC TM-650 2.5.6
Thermal Properties[1]							
Decomposition Temperature (T_d)	>500	>500	>500	°C	2hrs @ 105°C	5% Weight Loss	IPC TM-650 2.3.40
Coefficient of Thermal Expansion - x	47	34	46	ppm/°C	-	-55°C to 288°C	IPC TM-650 2.4.41
Coefficient of Thermal Expansion - y	29	26	73	ppm/°C	-	-55°C to 288°C	IPC TM-650 2.4.41
Coefficient of Thermal Expansion - z	196	196	250	ppm/°C	-	-55°C to 288°C	IPC TM-650 2.4.41
Thermal Conductivity	0.33	0.35	0.34	W/mK	-	z direction	ASTM D5470
Time to Delamination	>60	>60	>60	minutes	as-received	288°C	IPC TM-650 2.4.24.1
Mechanical Properties[1]							
Copper Peel Strength after Thermal Stress	2.6 (14.8)	2.4 (13.6)	2.5 (14.3)	N/mm (lbs/in)	10s @288°C	35 µm foil	IPC TM-650 2.4.8
Flexural Strength (MD/CMD)	8.8/6.4 (60.7/44.1)	8.8/6.4 (60.7/44.1)	11.8/10.2 (81.4/70.3)	MPa (ksi)	25°C ± 3°C	-	ASTM D790
Tensile Strength (MD/CMD)	6.0/5.6 (41.4/38.6)	8.1/6.6 (55.8/45.5)	15.0/13.0 (103.4/89.6)	MPa (ksi)	23°C/50% RH	-	ASTM D3039/D3039-14
Flex Modulus (MD/CMD)	885/778 (6,102/5,364)	930/818 (6,412/5,640)	1,071/1,074 (7,384/7,405)	MPa (ksi)	25°C ± 3°C	-	IPC-TM-650 Test Method 2.4.4
Dimensional Stability (MD/CMD)	0.02/0.06	0.03/0.07	0.16/0.20	mils/inch	after etch + bake	-	IPC-TM-650 2.4.39a
Physical Properties[1]							
Flammability	V-0	V-0	V-0	-	-	-	UL-94
Moisture Absorption	0.04	0.03	0.07	%	E1/105 +D48/50	-	IPC TM-650 2.6.2.1
Density	2.28	2.28	2.33	g/cm³	C-24/23/50	-	ASTM D792
Specific Heat Capacity	0.813	0.813	0.824	J/g°K	2 hours at 105°C	-	ASTM E2716

Product	Standard Thicknesses	Available Claddings	Standard Panel Sizes
AD250C	0.020" (0.508 mm) 0.090" (2.286 mm) 0.030" (0.762 mm) 0.125" (3.175 mm) 0.045" (1.143 mm) 0.250" (6.350 mm) 0.060" (1.524 mm)	• ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) ED • ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) RT	12" x 18" (305mm x 457mm) 24" x 18" (610mm x 457mm)
AD255C	0.020" (0.508 mm) 0.060" (1.524 mm) 0.025" (0.635 mm) 0.080" (2.032 mm) 0.030" (0.762 mm) 0.093" (2.362 mm) 0.040" (1.016 mm) 0.125" (3.175 mm)	• ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) ED • ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) RT	12" x 18" (305mm x 457mm) 24" x 18" (610mm x 457mm)
AD260A	0.030" (0.762 mm) 0.090" (2.286 mm) 0.040" (1.016 mm) 0.125" (3.175 mm) 0.060" (1.524 mm)	• ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) ED • ½ oz. (18µm), 1oz. (35µm), 2 oz. (70µm) RT	12" x 18" (305mm x 457mm) 24" x 18" (610mm x 457mm)