



Advanced Connectivity Solutions

PRODUCT SELECTOR GUIDE

Rogers Corporation was founded in 1832 and has over 60 years of experience as a global supplier of high performance RF materials.

Rogers Corporation's Advanced Connectivity Solutions (ACS) is the world's leading manufacturer of high performance dielectrics, laminates and prepregs used in microwave and RF printed circuit and related applications in Aerospace & Defense, Wireless & Wireline (digital) Infrastructure, Automotive Radar Sensor, Satellite TV, Mobile Internet Device and High End Chip Scale Packaging.

ACS is headquartered in Chandler, Arizona. Additional manufacturing, sales and technical service locations in North America, Europe and Asia enable Rogers to support our global customers at the local level.



Beyond recently expanded manufacturing capability, an extensive and growing product portfolio supports a wide array of application needs and environments. Rogers' application and technical service engineers are ready to assist in material selection, for design and PCB manufacturing phases of your product development process.



With unmatched industry expertise, Rogers Corporation continues to conceive and develop new material solutions for ever more challenging problems. For example, over the last several years Rogers Corporation introduced thermal management materials and continues to innovate to meet the needs for a range of emerging higher power applications. Our dedication to improving on electrical characterization capabilities, already best in class, enables us to anticipate questions and work collaboratively to push the material performance envelope.

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Primary Markets

Product	WIRELESS INFRASTRUCTURE			AUTOMOTIVE	
	Power Amplifiers	Antennas	Point To Point Digital Radios	Radar Systems	Non Radar Automotive
2929 Bond-ply					
3001 Bonding Film					
91ML™	X				X
92ML™	X				X
AD250C™		X			X
AD255C™		X			X
AD260A™		X			X
AD300C™		X			X
AD320A™		X			X
AD350A™	X	X			X
AD410™					X
AD430™					X
AD450™					X
AD600™					X
AD1000™	X				X
CLTE-XT™					
CLTE™					
CLTE-AT™	X		X		
CLTE-P™					
CuClad® 217					
CuClad 233					
CuClad 250					
CuClad 6250 Bonding Film					
CuClad 6700 Bonding Film					
COOLSPAN®	X		X		
DiClad® 880	X		X		X
DiClad 870			X		
DiClad 527	X		X		
DiClad 522			X		
IsoClad® 917					X
IsoClad 933					
R03003™	X		X	X	
R03203™					
R03035™	X				
R03006™	X				
R03206™					
R03010™					
R03210™					
R04725JXR™		X			
R04730JXR™		X			
R04533™		X			
R04003C™					X
R04534™		X			
R04350B™	X		X		
R04450F™	X				
R04835™	X		X	X	
R04535™		X			
R04360G2™	X				
RT/duroid® 5880LZ					
RT/duroid 5880	X				
RT/duroid 5870					
RT/duroid 6002					
RT/duroid 6202PR					
RT/duroid 6202					
RT/duroid 6035HTC					
RT/duroid 6010LM					
TC350™	X				
TC600™	X				
TMM® 3					
TMM 4					
TMM 6					
TMM 10					
TMM 10i					
TMM 13i					
XT/duroid® 8000					
XT/duroid 8100					
ULTRALAM® 3850HT	X		X		
ULTRALAM 3908					

KEY: X = Recommended Material

MID	HIGH RELIABILITY			HIGH SPEED DIGITAL	Product
	Mobile Internet Devices	Antenna Systems	Broadcast Satellites	Radar Systems	
	X	X	X	X	2929 Bond-ply
	X	X	X		3001 Bonding Film
					91ML™
X					92ML™
					AD250C™
					AD255C™
					AD260A™
					AD300C™
					AD320A™
					AD350A™
					AD410™
					AD430™
					AD450™
	X		X		AD600™
	X		X		AD1000™
	X	X	X	X	CLTE-XT™
	X	X	X		CLTE™
					CLTE-AT™
	X				CLTE-P™
	X	X	X		CuClad® 217
	X	X	X		CuClad 233
	X	X	X		CuClad 250
	X	X	X		CuClad 6250 Bonding Film
	X	X	X		CuClad 6700 Bonding Film
	X	X	X		COOLSPAN®
					DiClad® 880
					DiClad 870
					DiClad 527
					DiClad 522
	X				IsoClad® 917
	X				IsoClad 933
X					R03003™
					R03203™
					R03035™
					R03006™
					R03206™
X					R03010™
					R03210™
					R04725JXR™
					R04730JXR™
					R04533™
					R04003C™
					R04534™
				X	R04350B™
				X	R04450F™
				X	R04835™
					R04535™
					R04360G2™
	X	X	X		RT/duroid® 5880LZ
	X	X	X		RT/duroid 5880
	X	X	X		RT/duroid 5870
	X	X	X		RT/duroid 6002
	X	X	X		RT/duroid 6202PR
	X	X	X		RT/duroid 6202
	X	X	X		RT/duroid 6035HTC
	X	X	X		RT/duroid 6010LM
					TC350™
					TC600™
	X	X	X		TMM® 3
	X	X	X		TMM 4
	X	X	X		TMM 6
	X	X	X		TMM 10
	X	X	X		TMM 10i
	X	X	X		TMM 13i
	X	X	X		XT/duroid® 8000
	X	X	X		XT/duroid 8100
	X	X	X		ULTRALAM® 3850HT
	X	X	X		ULTRALAM 3908

LAMINATES

	Product	Dielectric Constant, ϵ_r @ 10 GHz (Typical)		Dissipation ⁽¹⁾ Factor TAN δ @ 10 GHz (Typical)	Thermal ⁽²⁾ Coefficient of ϵ_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm · cm (Typical)	Surface Resistivity Mohm (Typical)	Water ⁽⁴⁾ Absorption D48/50 % (Typical)
		Process ⁽¹⁾	Design ⁽¹¹⁾					
ML SERIES™	91ML™	5.5 (1 MHz)	-	0.017 (1 MHz)	-	2.8 X 10 ⁸	4.4 X 10 ⁷	0.13
	92ML™	5.2 (1 MHz)	-	0.013 (1 MHz)	-	1.2 X 10 ⁹	2.8 X 10 ⁸	0.12
AD SERIES™	AD250C™ Woven Glass Reinforced PTFE Antenna Grade Laminates	2.50	-	0.0013	-95	1.1 X 10 ⁹	4.5 X 10 ⁷	0.04
	AD255C™ Woven Glass Reinforced PTFE Antenna Grade Laminates	2.55	-	0.0014	-90	1.1 X 10 ⁹	4.5 X 10 ⁷	0.04
	AD260A™ Woven Glass Reinforced PTFE Antenna Grade Laminates	2.60	-	0.0017	-118	1.1 X 10 ⁹	4.5 X 10 ⁷	0.04
	AD300C™ Woven Glass Reinforced PTFE Antenna Grade Laminates	2.97	-	0.0020	-25	1.2 X 10 ⁸	2.5 X 10 ⁸	0.05
	AD320A™ Woven Glass Reinforced PTFE Antenna Grade Laminates	3.20	-	0.0032	-90	1.2 X 10 ⁹	4.5 X 10 ⁷	0.07
	AD350A™ Woven Glass Reinforced PTFE Antenna Grade Laminates	3.50	-	0.0030	-55	1.2 X 10 ⁹	4.5 X 10 ⁷	0.10
	AD410™ Woven Glass Reinforced PTFE Antenna Grade Laminates	4.10	-	0.0030	-100	1.2 X 10 ⁹	4.5 X 10 ⁷	0.06
	AD430™ Woven Glass Reinforced PTFE Antenna Grade Laminates	4.30	-	0.0030	-100	1.2 X 10 ⁹	4.5 X 10 ⁷	0.06
	AD450™ Woven Glass Reinforced PTFE Antenna Grade Laminates	4.50	-	0.0035	-200	1.2 X 10 ⁹	4.5 X 10 ⁷	0.06
	AD600™ Woven Glass Reinforced PTFE	6.15*	-	0.0030	-241	-	-	0.04
	AD1000™ Woven Glass Reinforced PTFE	10.20*	-	0.0023	-380	1.4 X 10 ⁹	1.8 X 10 ⁹	0.03
CLTE SERIES™	CLTE-XT™ Woven Glass Reinforced PTFE	2.94*	-	0.0012	-9	4.3 X 10 ⁸	2.5 X 10 ⁸	0.02
	CLTE™ Woven Glass Reinforced PTFE	2.98	-	0.0023	-9	1.4 X 10 ⁹	1.3 X 10 ⁶	0.04
	CLTE-AT™ Woven Glass Reinforced PTFE	3.00	-	0.0013	-10	4.3 X 10 ⁸	2.0 X 10 ⁸	0.03
CUCLAD® SERIES	CuClad® 217 Woven Glass Reinforced PTFE	2.17, 2.20	-	0.0009	-151	2.3 X 10 ⁸	3.4 X 10 ⁶	0.02
	CuClad 233 Woven Glass Reinforced PTFE	2.33	-	0.0013	-171	8.0 X 10 ⁸	2.4 X 10 ⁶	0.02
	CuClad 250 Woven Glass Reinforced PTFE	2.40 to 2.60*	-	0.0017	-170	8.0 X 10 ⁹	1.5 X 10 ⁸	0.03
DICALD® SERIES	DiClad® 880 Woven Glass Reinforced PTFE	2.17, 2.20	-	0.0090	-160	1.4 X 10 ⁹	2.9 X 10 ⁶	0.02
	DiClad 870 Woven Glass Reinforced PTFE	2.33	-	0.0013	-161	1.5 X 10 ⁹	3.4 X 10 ⁷	0.02
	DiClad 527 Woven Glass Reinforced PTFE	2.40 to 2.60*	-	0.0017	-153	1.2 X 10 ⁹	4.5 X 10 ⁷	0.03
	DiClad 522 Woven Glass Reinforced PTFE	2.40 to 2.60*	-	0.0017	-153	1.2 X 10 ⁹	4.5 X 10 ⁷	0.03

*Refer to Data Sheets for Dielectric Constant and Thickness Options

Thermal Conductivity W/m/°K (Typical) 50°C ASTM D5470	Coefficient of Thermal Expansion ⁽⁶⁾ -55° to 288°C ppm/°C (Typical)			Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density gm/cm ³ (Typical)	Flammability Rating UL 94	Lead-Free ⁽⁹⁾ Process Compatible	PIM dBc Typical	Product
	X	Y	Z						
1.00	-	-	-	5.0	2.10	V-0	YES	-	91ML™
2.00	-	-	-	5.0	2.20	V-0	YES	-	92ML™
0.30	16	16	200	12.0	2.30	V-0	YES	-	AD250C™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.30	16	16	200	12.0	2.30	V-0	YES	-	AD255C™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.30	16	16	80	17.0	2.30	V-0	YES	-	AD260A™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.45	9	15	54	13.0	2.10	V-0	YES	-	AD300C™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.35	14	14	40	12.0	2.09	V-0	YES	-	AD320A™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.45	5	9	35	17.0	2.10	V-0	YES	-	AD350A™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.46	5	9	35	12.0	2.30	V-0	YES	-	AD410™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.46	5	9	35	12.0	2.30	V-0	YES	-	AD430™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.40	10	10	40	12.0	2.50	V-0	YES	-	AD450™ Woven Glass Reinforced PTFE Antenna Grade Laminates
0.46	11	10	45	12.0	2.45	V-0	YES	-	AD600™ Woven Glass Reinforced PTFE
0.81	8	10	20	12.0	3.20	V-0	YES	-	AD1000™ Woven Glass Reinforced PTFE
0.56	8	8	20	7.2	2.02	V-0	YES	-	CLTE-XT™ Woven Glass Reinforced PTFE
0.50	10	12	34	7.0	2.38	V-0	YES	-	CLTE™ Woven Glass Reinforced PTFE
0.64	8	8	20	6.5	2.06	V-0	YES	-	CLTE-AT™ Woven Glass Reinforced PTFE
0.26	29	28	246	14.0	2.23	V-0	YES	-	CuClad® 217 Woven Glass Reinforced PTFE
0.26	23	24	194	14.0	2.26	V-0	YES	-	CuClad 233 Woven Glass Reinforced PTFE
0.25	18	19	177	14.0	2.31	V-0	YES	-	CuClad 250 Woven Glass Reinforced PTFE
0.26	25	34	252	14.0	2.23	V-0	YES	-	DiClad® 880 Woven Glass Reinforced PTFE
0.26	17	29	217	14.0	2.26	V-0	YES	-	DiClad 870 Woven Glass Reinforced PTFE
0.25	14	21	173	14.0	2.31	V-0	YES	-	DiClad 527 Woven Glass Reinforced PTFE
0.25	14	21	173	14.0	2.31	V-0	YES	-	DiClad 522 Woven Glass Reinforced PTFE

ML SERIES™

AD SERIES™

CLTE SERIES™

CUCLAD® SERIES

DICALAD® SERIES

LAMINATES

Product	Dielectric Constant, ϵ_r @ 10 GHz (2.5 GHz) (Typical)		Dissipation ⁽¹⁾ Factor TAN δ @ 10 GHz (2.5 GHz) (Typical)	Thermal ⁽²⁾ Coefficient of ϵ_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm · cm (Typical)	Surface Resistivity Mohm (Typical)	Water ⁽⁴⁾ Absorption D48/50 % (Typical)	
	Process ⁽¹⁾	Design ⁽¹¹⁾						
ISOCLAD® SERIES IsoClad® 917 Non-Woven Glass Reinforced PTFE	2.17	-	0.0013	-157	1.5 X 10 ¹⁰	1.0 X 10 ⁹	0.04	
	IsoClad 933 Non-Woven Glass Reinforced PTFE	2.33	-	0.0016	-132	3.5 X 10 ⁸	1.0 X 10 ⁸	0.05
RO3000® SERIES	R03003™ PTFE Ceramic	⁽⁷⁾⁽⁸⁾ 3.00 ± 0.04	3.00	0.0010	-3	1 X 10 ⁷	1 X 10 ⁷	0.04
	R03203™ PTFE Ceramic Woven Glass Reinforced	⁽⁷⁾ 3.02 ± 0.04	3.02	0.0016	-13	1 X 10 ⁷	1 X 10 ⁷	0.03
	R03035™ PTFE Ceramic	3.50 ± 0.05	3.60	0.0015	-45	1 X 10 ⁷	1 X 10 ⁷	0.04
	R03006™ PTFE Ceramic	6.15 ± 0.15	6.5	0.002	-262	1 X 10 ⁵	1 X 10 ⁵	0.02
	R03206™ PTFE Ceramic Woven Glass Reinforced	6.15 ± 0.15	6.6	0.0027	-212	1 X 10 ³	1 X 10 ³	0.03
	R03010™ PTFE Ceramic	10.20 ± 0.30	11.2	0.0022	-395	1 X 10 ⁵	1 X 10 ⁵	0.05
	R03210™ PTFE Ceramic Woven Glass Reinforced	10.20 ± 0.50	10.8	0.0027	-459	1 X 10 ³	1 X 10 ³	0.12
RO4000® SERIES	R04725JXR™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	2.55 ± 0.05	2.64	0.0026 (0.0022)	+34	2.16 X 10 ⁸	4.8 X 10 ⁷	0.24
	R04730JXR™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.00 ± 0.05	2.98	0.0027 (0.0023)	+32	5.96 X 10 ⁸	1.68 X 10 ⁸	0.14
	R04533™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.30 ± 0.08	3.45	0.0025 (0.0020)	+40	1.1 X 10 ¹⁰	9.9 X 10 ⁸	0.02
	R04003C™ Hydrocarbon Ceramic Woven Glass	3.38 ± 0.05	3.55	0.0027	+40	1.7 X 10 ¹⁰	4.2 X 10 ⁹	0.04
	R04534™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.40 ± 0.08	3.55	0.0027 (0.0022)	+40	1.7 X 10 ¹⁰	4.2 X 10 ⁹	0.06
	R04350B™ Hydrocarbon Ceramic Woven Glass	3.48 ± 0.05	3.66	0.0037	+50	1.2 X 10 ¹⁰	5.7 X 10 ⁹	0.05
	R04835™ Hydrocarbon Ceramic Woven Glass	3.48 ± 0.05	3.66	0.0037	+50	1 X 10 ¹⁰	1 X 10 ⁹	0.05
	R04535™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.5 ± 0.08	3.66	0.0037 (0.0032)	+50	1.2 X 10 ¹⁰	5.7 X 10 ⁹	0.05
	R04360G2™ Hydrocarbon Ceramic Woven Glass	6.15 ± 0.15	6.4	0.0038	-131	4 X 10 ¹³	9 X 10 ¹²	0.08

Thermal Conductivity W/m/°K (Typical) 50°C ASTM D5470	Coefficient of Thermal Expansion ⁽⁶⁾ -55° to 288°C ppm/°C (Typical)			Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density gm/cm ³ (Typical)	Flammability Rating UL 94	Lead-Free ⁽⁹⁾ Process Compatible	PIM dBc Typical	Product
	X	Y	Z						
0.26	46	47	236	10.0	2.23	V-0	YES	-	IsoClad® 917 Non-Woven Glass Reinforced PTFE
0.26	31	35	203	10.0	2.27	V-0	YES	-	IsoClad 933 Non-Woven Glass Reinforced PTFE
0.50	17	16	25	12.7 (2.2)	2.1	V-0	YES	-	R03003™ PTFE Ceramic
0.48	13	13	58	10.2 (1.8)	2.1	V-0	YES	-	R03203™ PTFE Ceramic Woven Glass Reinforced
0.50	17	17	24	10.2 (1.8)	2.1	V-0	YES	-	R03035™ PTFE Ceramic
0.79	17	17	24	7.1 (1.2)	2.6	V-0	YES	-	R03006™ PTFE Ceramic
0.67	13	13	34	10.7 (1.9)	2.7	V-0	YES	-	R03206™ PTFE Ceramic Woven Glass Reinforced
0.95	13	11	16	9.4 (1.6)	2.8	V-0	YES	-	R03010™ PTFE Ceramic
0.81	13	13	34	11.0 (1.9)	3	V-0	YES	-	R03210™ PTFE Ceramic Woven Glass Reinforced
⁽¹⁹⁾ 0.38	13.9	19.0	25.6	8.5 (1.49)	1.27	NON FR	YES	- 166	R04725JXR™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates
⁽¹⁹⁾ 0.49	11.3	13.5	21.1	8.4 (1.47)	1.53	NON FR	YES	- 164	R04730JXR™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates
0.60	13	11	37	6.9 (1.2)	1.8	NON FR	YES	-157	R04533™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates
0.71	11	14	46	6.0 (1.05)	1.8	NON FR	YES	-	R04003C™ Hydrocarbon Ceramic Woven Glass
0.60	11	14	46	6.3 (1.1)	1.8	NON FR	YES	-157	R04534™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates
0.69	10	12	32	5.0 (0.88)	1.9	V-0	YES	-	R04350B™ Hydrocarbon Ceramic Woven Glass
0.66	10	12	31	5.0 (0.88)	1.92	V-0	YES	-	R04835™ Hydrocarbon Ceramic Woven Glass
0.6	14	16	35	5.1 (0.9)	1.9	V-0	YES	-157	R04535™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates
0.75	13	14	28	5.2 (0.91)	2.16	V-0	YES	-	R04360G2™ Hydrocarbon Ceramic Woven Glass

ISOCLAD® SERIES

R03000® SERIES

R04000® SERIES

LAMINATES

	Product	Dielectric Constant, ϵ_r @ 10 GHz (Typical)		Dissipation ⁽¹⁾ Factor TAN δ @ 10 GHz (Typical)	Thermal ⁽²⁾ Coefficient of ϵ_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm · cm (Typical)	Surface Resistivity Mohm (Typical)	Water ⁽⁴⁾ Absorption D48/50 % (Typical)
		Process ⁽¹⁾	Design ⁽¹¹⁾					
RT/DUROID 5000	RT/duroid® 5880LZ Filled PTFE Composite	1.96 ± 0.04	1.96	0.0019	+22	2.1 X 10 ⁷	2.6 X 10 ⁶	0.22
	RT/duroid 5880 PTFE RandomGlass Fiber	2.20 ± 0.02	2.20	0.0009	-125	2 X 10 ⁷	3 X 10 ⁷	0.02
	RT/duroid 5870 PTFE Random Glass Fiber	2.33 ± 0.02	2.33	0.0012	-115	2 X 10 ⁷	2 X 10 ⁷	0.02
RT/DUROID 6000	RT/duroid 6002 PTFE Ceramic	2.94 ± 0.04	2.94	0.0012	+12	1 X 10 ⁶	1 X 10 ⁷	0.02
	RT/duroid 6202PR ⁽²⁰⁾ PTFE Ceramic Woven Glass Reinforced	2.90 to 3.00 ± 0.04	2.90 to 3.00	0.0020	⁽⁸⁾ +5 to -15	1 X 10 ¹⁰	1 X 10 ⁹	0.03
	RT/duroid 6202 PTFE Ceramic Woven Glass Reinforced	⁽⁸⁾ 2.90 to 3.06	⁽⁸⁾ 2.90 to 3.06 ± 0.04	0.0015	⁽⁸⁾ +5 to -15	1 X 10 ⁶	1 X 10 ⁹	0.04
	RT/duroid 6035HTC PTFE Ceramic	3.50 ± 0.05	3.60	0.0013	-66	1 X 10 ⁸	1 X 10 ⁸	⁽¹²⁾ 0.06
	RT/duroid 6010LM PTFE Ceramic	10.20 ± 0.25	10.7	0.0023	-425	5 X 10 ⁵	5 X 10 ⁶	0.01
TC SERIES	TC350™	3.50	-	0.0020	-9	7.4 X 10 ⁶	3.2 X 10 ⁷	0.05
	TC600™	6.15	-	0.0020	-75	1.6 X 10 ⁹	3.1 X 10 ⁹	0.03
TMM SERIES	TMM® 3 Hydrocarbon Ceramic	3.27 ± 0.032	3.45	0.0020	+37	3 X 10 ⁹	9 x 10 ⁹	⁽¹⁰⁾ 0.06
	TMM 4 Hydrocarbon Ceramic	4.50 ± 0.045	4.7	0.0020	+15	6 X 10 ⁸ *	1 x 10 ⁹ *	⁽¹⁰⁾ 0.07
	TMM 6 Hydrocarbon Ceramic	6.00 ± 0.08	6.3	0.0023	-11	1 X 10 ⁸ *	1 x 10 ⁹ *	⁽¹⁰⁾ 0.06
	TMM 10 Hydrocarbon Ceramic	9.20 ± 0.23	9.8	0.0022	-38	2 X 10 ⁸	4 X 10 ⁷	⁽¹⁰⁾ 0.09
	TMM 10i Hydrocarbon Ceramic	9.80 ± 0.245	9.9	0.0020	-43	2 X 10 ⁸	4 X 10 ⁷	⁽¹⁰⁾ 0.16
	TMM 13i Hydrocarbon Ceramic	⁽¹⁴⁾ 12.85 ± 0.35	12.2	0.0019	-70	TBD	TBD	0.13
	ULTRALAM® 3850HT Liquid Crystalline Polymer	⁽¹⁸⁾ 2.90	3.14	0.0020	+24	1 x 10 ¹²	1 X 10 ¹⁰	0.04
XT/DUROID SERIES	XT/duroid® 8000 (PEEK)	⁽¹⁸⁾ 3.23	-	0.0035	+7	1 X 10 ¹⁰	1 X 10 ⁸	⁽¹²⁾ 0.20
	⁽¹⁵⁾ XT/duroid 8100 (PEEK) Woven Glass Reinforced 0.002" (0.0508mm) 0.004" (0.102mm)	⁽¹⁸⁾ 3.54 ± 0.05 3.32 ± 0.05	-	0.0049 0.0038	+9 +9	- 1 X 10 ¹⁰	- 1 X 10 ⁶	⁽¹²⁾ 0.15 0.32

Thermal Conductivity W/m ² K (Typical) 50° C ASTM D5470	Coefficient of Thermal Expansion ⁽⁶⁾ 0° to 100°C ppm/°C (Typical)			Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density gm/cm ³ (Typical)	Flammability Rating UL 94	Lead-Free ⁽⁹⁾ Process Compatible	PIM dBc Typical	Product	
	X	Y	Z							
0.33	44	43	42	>4.0	1.4	V-0	YES	-	RT/duroid® 5880LZ Filled PTFE Composite	RT/DUROID 5000
0.20	31	48	237	31.2 (5.5)	2.2	V-0	YES	-	RT/duroid 5880 PTFE Random Glass Fiber	
0.22	22	28	173	27.2 (4.8)	2.2	V-0	YES	-	RT/duroid 5870 PTFE Random Glass Fiber	
0.60	16	16	24	8.9 (1.6)	2.1	V-0	YES	-	RT/duroid 6002 PTFE Ceramic	RT/DUROID 6000
0.68	15	15	30	14.3 (2.5)	2.1	V-0	YES	-	RT/duroid 6202PR ⁽²⁰⁾ PTFE Ceramic Woven Glass Reinforced	
0.68	15	15	30	9.1 (1.6)	2.1	V-0	YES	-	RT/duroid 6202 PTFE Ceramic Woven Glass Reinforced	
1.44	⁽¹⁶⁾ 19	⁽¹⁶⁾ 19	⁽¹⁶⁾ 39	7.9 (1.4)	2.2	V-0	YES	-	RT/duroid 6035HTC PTFE Ceramic	
0.86	24	24	47	12.3 (2.1)	3.1	V-0	YES	-	RT/duroid 6010LM PTFE Ceramic	
1.00	7	7	23	7.0	2.3	V-0	YES	-	TC350™	TC SERIES
1.10	9	9	35	8.0	3.0	V-0	YES	-	TC600™	
0.70	15	15	23	5.7 (1.0)	1.8	NON FR	YES	-	TMM® 3 Hydrocarbon Ceramic	TMM SERIES
0.70	16	16	21	5.7 (1.0)	2.1	NON FR	YES	-	TMM 4 Hydrocarbon Ceramic	
0.72	18	18	26	5.7 (1.0)	2.4	NON FR	YES	-	TMM 6 Hydrocarbon Ceramic	
0.76	21	21	20	5 (0.9)	2.8	NON FR	YES	-	TMM 10 Hydrocarbon Ceramic	
0.76	19	19	20	5 (0.9)	2.8	NON FR	YES	-	TMM 10i Hydrocarbon Ceramic	
⁽¹⁷⁾ 0.76	19	19	20	4 (0.7)	3.0	NON FR	YES	-	TMM 13i Hydrocarbon Ceramic	
0.20	18	18	200	7.4 (1.3)	1.4	VTM-0	YES	-	ULTRALAM® 3850HT Liquid Crystalline Polymer	XT/DUROID SERIES
0.35	18	23	68	5.0 (0.88)	1.5	VTM-0	YES	-	XT/duroid® 8000 (PEEK)	
0.30 0.30	16.5 19	18 21	57 76	6.2 6.3	1.7 1.6	VTM-0	YES	-	⁽¹⁵⁾ XT/duroid 8100 (PEEK) Woven Glass Reinforced 0.002" (0.0508mm) 0.004" (0.102mm)	

BONDING MATERIALS

Product		Dielectric ⁽¹⁾ Constant, ϵ_r (Typical)	Dissipation ⁽¹⁾ Factor TAN δ @ 10 GHz (Typical)	Volume Resistivity Mohm \cdot cm (Typical)	Water ⁽⁴⁾ Absorption D48/50 % (Typical)	Thermal ⁽⁵⁾ Conductivity W/m ² /K (Typical) 50°C ASTM D5470
2929 Bond-ply		2.94 \pm 0.05	0.0030	⁽²¹⁾ 7.4 X 10 ⁹	⁽¹⁴⁾ 0.1	0.40
3001 Bonding Film		2.28	0.0030	1 X 10 ¹¹	0.05	0.22
CLTE-P™		2.94	0.0025	1.4 X 10 ⁸	0.04	0.50
COOLSPAN® Thermally & Electrically Conductive Adhesive (TECA) Film		N/A	N/A	3.8 X 10 ⁻¹⁰ (Conductive)	N/A	6.00
CuClad® 6250 Bonding Film		2.32	0.0013	1.0 X 10 ¹⁰	0.01	0.17
CuClad 6700 Bonding Film		2.35	0.0025	1.0 X 10 ¹²	0.01	0.17
R03003™ Ceramic PTFE Bond-ply		3.00 \pm 0.04	0.0013	1 X 10 ⁷	0.04	0.50
R03006™ Ceramic PTFE Bond-ply		6.15 \pm 0.15	0.0020	1 X 10 ⁵	0.02	0.79
R03010™ Ceramic PTFE Bond-ply		10.20 \pm 0.30	0.0022	1 X 10 ⁵	0.05	0.95
R04450B™ Hydrocarbon / Ceramic / Woven Glass / Prepreg	Thickness 0.0036"	3.30 \pm 0.05	0.0040	9.26 X 10 ⁷	0.09	0.60
	0.004"	3.54 \pm 0.05	0.0040	9.26 X 10 ⁷	0.08	0.60
R04450F™ Hydrocarbon / Ceramic / Woven Glass / Prepreg		3.52 \pm 0.05	0.0040	8.93 X 10 ⁸	0.07	0.65
RT/duroid® 6002 Ceramic PTFE Bond-ply		2.94 \pm 0.04	0.0012	1 X 10 ⁶	<0.10	0.60
ULTRALAM® 3908 LCP Bonding film		2.90	0.0025	2.6 X 10 ¹⁴	⁽¹³⁾ 0.04	0.20

Properties Notes:

- (1) Measured by IPC-TM-650 method 2.5.5.5 @ ~10 GHz, 23°C. Materials were based on testing raw substrate material. ϵ_r values and tolerance reported by IPC-TM-650 method 2.5.5.5 are the basis for quality acceptance, but for some products these values may be incorrect for design engineering applications, especially those in microstrip. We recommend that prototype boards of a new design be verified for electrical performance.
- (2) Measured by IPC-TM-650 method 2.5.5.5 at ~10GHz modified.
- (3) Young's modulus (elastic modulus), steepest region of the stress/strain curve is in tension for X and Y axes by ASTM D 638: in compression of Z axis by ASTM D695 on 12.7 X 12.7 X 25.4mm stocked specimen.
- (4) Testing conditions: 48 hours @ 50°C, specimens etched free of copper.
- (5) Tested by ASTM C518.
- (6) Tested by ASTM D3386-94. Values are average over temperature range but not necessarily linear. However for RT/duroid 6002 and TMM grades the response is essentially linear.
- (7) The nominal dielectric constant of an 0.060" thick R03003/R03203 laminate as measured by IPC-TM-2.5.5.5 will be 3.04 due to the elimination of biasing caused by air gaps in the test fixture. For further information refer to Rogers' T.R. 5242.
- (8) Due to construction limitations, the dielectric constant of 0.005" laminates is 3.06 \pm 0.04; 0.010" and 0.015" laminates are 3.02 \pm 0.04: TCDK is +5 for the higher Dk range; and for 2.90 TCDK is -15
- (9) Rogers' high frequency laminates and prepregs are lead-free process compatible and in accordance with IEC 61249-2-21.
- (10) TMM® material test conditions D24/50 (twenty-four hours at 50°C) on 0.050" (1.27mm) thick specimens. TMM13i test condition D48/50.
- (11) Design Dk is determined by testing thick microstrip transmission line circuits and reporting the thickness-axis dielectric constant of the raw material without the influence of copper. For more information, refer to the article on the Rogers website titled "The Influence of Test Method, Conductor Profile, and Substrate Anisotropy on the Permittivity Values Required for Accurate Modeling of High Frequency Planar Circuits", which was featured in a publication Sept. 2012. <http://www.rogerscorp.com/acm/articles.aspx>
- (12) Testing conditions: 24 hours @ 23 C, specimens etched free of copper
- (13) Available only with LoPro™ copper foil
- (14) Test method 2.5.5.6
- (15) XT/duroid material thicknesses tested were 0.002" and 0.004" except for 8100 volume and surface resistivity which 0.004" material was tested
- (16) Conditions were -55 to 288°C. Test Method ASTM D-3386

Coefficient of Thermal Expansion ⁽⁶⁾ 0° - 100°C ppm/°C (Typical)			Density gm/cm ³ (Typical)	Flammability Rating UL 94	Lead-Free ⁽⁹⁾ Process Compatible	Product	
X	Y	Z					
50	50	50	1.50	NON-FR	YES	2929 Bond-ply	
-	-	-	2.10	-	NO	3001 Bonding Film	
10	12	35	2.38	V-0	YES	CLTE-P™	
45	45	45	4.60	NON-FR	YES	COOLSPAN® Thermally & Electrically Conductive Adhesive (TECA) Film	
-	-	-	0.93	-	NO	CuClad® 6250 Bonding Film	
-	-	-	2.10	-	NO	CuClad 6700 Bonding Film	
17	16	25	2.10	V-0	YES	R03003™ Ceramic PTFE Bond-ply	
17	17	24	2.60	V-0	YES	R03006™ Ceramic PTFE Bond-ply	
13	11	16	2.80	V-0	YES	R03010™ Ceramic PTFE Bond-ply	
19	17	60	1.80	V-0	YES	R04450B™ Hydrocarbon / Ceramic / Woven Glass / Prepreg	Thickness 0.0036"
19	17	50	1.86	V-0	YES		0.004"
19	17	50	1.83	V-0	YES	R04450F™ Hydrocarbon / Ceramic / Woven Glass / Prepreg	
16	16	24	2.10	V-0	YES	RT/duroid® 6002 Ceramic PTFE Bond-ply	
17	17	150	1.40	VTM-0	YES	ULTRALAM® 3908 LCP Bonding film	

Properties Notes Continued:

(17) Estimated

(18) IPC-TM-650.2.5.5.5.1

(19) Test method: ASTM D5470-12 @ 50°C

(20) PR stands for Planar Resistor. Resistive foil, if required, must be specified when ordering 6202PR laminate.

(21) Conditions 125°C/24 hours. Test method IPC-TM-650 2.5.17.1

Typical values are a representation of an average value for the population of the property.
For specification values contact Rogers Corporation.

The information contained in this Product Selector Guide is intended to assist you in designing with Rogers' circuit materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. The user should determine the suitability of Rogers' circuit materials for each application.

Prolonged exposure in an oxidative environment may cause changes to the dielectric properties of hydrocarbon based materials. The rate of change increases at higher temperatures and is highly dependent on the circuit design. Although Rogers' high frequency materials have been used successfully in innumerable applications and reports of oxidization resulting in performance problems are extremely rare, Rogers recommends the customer evaluate each material and design combination to determine fitness for use over the entire life of the end product.

Metal Claddings

Foil Type	Weight or Thickness	Surface Roughness Rq (µm)		Products			
		Dielectric Side	Top Side				
Rolled	2 oz (70 µm)	0.6	0.3	RO3003™, RO3035™, RO3203™			
	1 oz (35 µm)	0.4	0.3	RO3003, RO3035, RO3203, RT/duroid® 5870, 5880, 6002, 6002PR, 6202, 6202PR laminates			
	½ oz. (18 µm)	0.3	0.3				
Electrodeposited	¼ oz. (9 µm)	0.8	0.4	RO3000® laminates, RT/duroid 5870*, 5880*, 6002*, 6006*, 6010LM*, 6202* * Note: Please check with Rogers' Representative to confirm availability.			
	1 oz. (35 µm)	2.1	0.4	RT/duroid 5870, 5880, 5880LZ, 6002, 6202, 6010LM RT/duroid 6035HTC laminates			
	½ oz. (18 µm)	1.8	0.4	RO3000 laminates TMM® 3, 4, 6, 10, 10i, 13i			
	2 oz. (70 µm)	3.3	0.4				
	1 oz. (35 µm)	3.2	0.4	RO4003C™, RO4350B™, RO4360G2™, RO4533™, RO4534™, RO4835™ laminates			
	½ oz. (18 µm)	2.8	0.4				
Electrodeposited Reverse Treated	½ oz. (18 µm)	0.5	0.4	ULTRALAM® 3850, XT/duroid® 8000/8100 laminates			
	¼ oz. (9 µm)	0.5	0.3				
	1 oz. (35 µm)	0.9	1.3	RT/duroid 5870, 5880, 6002, 6002PR, 6006, 6010LM, 6202, 6202PR, RT/duroid 6035HTC laminates, RO3000 laminates			
	½ oz. (18 µm)	0.7	0.8				
LoPro® Resin Coated Reverse Treated	1 oz. (35 µm)	0.9	1.1	RO4003C, RO4350B, RO4533, RO4534, RO4535, RO4725JXR™, RO4730JXR™, RO4835 laminates			
	½ oz. (18 µm)	0.8	0.6				
Resistive Foil	TCR® Thin Film Resistor Foil ½ oz. (18 µm)	2.2	0.5	RO4003C, RO4350B laminates, RT/duroid 6002*, 6002PR*, 6202*, 6202PR* * Note: Please check with Rogers' Representative to confirm availability.			
	OhmegaPly® Resistor - Conductor Material 25 ohms ½ oz (18 µm)	1.4	0.3	RO4003C laminates			
	OhmegaPly Resistor - Conductor Material 25 ohms ½ oz. (18 µm)	1.0	0.3	RO3000 laminates, RT/duroid* 5870, 5880, 6002, 6002PR, 6006, 6010LM, 6202, 6202PR laminates * 50 & 100 ohms may be available (RT/duroid materials only)			
Property	Electrodeposited (ED)				Rolled (RLD)		
	¼ oz (9 mm)	0.5 oz (18 mm)	1 oz. (35 mm)	2 oz (70 mm)	0.5 oz (18 mm)	1 oz. (35 mm)	2 oz. (70 mm)
Tensile Strength, kpsi	15	33	40	40	20	22	28
Elongation, %*	2	2	3	3	8	13	27
Vol Resistivity mohm · cm	-	1.66	1.62	1.62	1.78	1.74	1.74
Thickness: in (mm)	0.0004 (10.2)	0.0007 (17.8)	0.0014 (35.6)	0.0028 (71.1)	0.0007 (17.8)	0.0014 (35.6)	0.0028 (71.1)
Plates	Alloy	Machinability	Density gm/cm³	Thermal Conductivity W/m²K	Coefficient of Thermal Expansion ppm/C		
Aluminum	6061	Poor	2.7	150	24		
Brass	70/30 Cartridge	Good	8.5	120	20		
Copper	110	Fair to Good	8.9	390	17		

Thickness, Tolerance & Panel Size inches (mm)

Bonding Materials

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
CLTE-P™	0.0032" (0.081mm)	N/A	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
CuClad® 6250	0.0015" (0.038mm)	N/A	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 30' Roll (610mm X 9.144m)
CuClad 6700	0.0015" (0.038mm) 0.0030" (0.076mm)	N/A	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 30' Roll (610mm X 9.144m)
COOLSPAN® TECA	0.002" (0.051mm) ± 0.0005"	N/A	10" X 12" (254mm X 305mm)
COOLSPAN TECA	0.004" (0.102mm) ± 0.0005"	N/A	10" X 12" (254mm X 305mm)
2929 Bond-ply	0.0015" (0.038mm) 0.0020" (0.051mm) 0.0030" (0.076mm)	N/A	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
3001 Bonding Film Thermoplastic	.0015" (0.038mm)	N/A	12" X 50' Roll (304mm X 15.24m)
ULTRALAM® 3908 (LCP) Bond-ply	.001" (0.025mm) .002" (0.051mm)	N/A	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
RO3003™ Bond-ply, RO3006™/RO3010™ Bond-ply	.005" (0.127mm)	N/A	25.5" X 18" (648mm X 457mm)
RO4450B™ Prepreg	.0036" (0.091mm) .004" (0.102mm)	N/A	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO4450F™ Prepreg	.004" (0.102mm)	N/A	48" X 36" (1220mm X 914mm)
RT/duroid® 6002 Bond-ply	0.0025" (0.064mm)	N/A	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
91ML™	0.030" (0.762mm) ± TBD 0.040" (1.016mm) ± TBD 0.060" (1.524mm) ± TBD 0.080" (2.032mm) ± TBD	1, 2, 3, 4 oz ED 0.040", 0.059", 0.079" Thick Al - 5052 and 6061 alloys	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
92ML™	0.030" (0.762mm) ± TBD 0.040" (1.016mm) ± TBD 0.060" (1.524mm) ± TBD 0.080" (2.032mm) ± TBD	1, 2, 3, 4 oz ED 0.040", 0.059", 0.079" Thick Al - 5052 and 6061 alloys	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
AD250C™	0.020" (0.508mm) ± 0.0020" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 54" (1220mm X 1372mm)
AD255C™	0.030" (0.762mm) ± 0.0020" 0.040" (1.016mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 54" (1220mm X 1372mm)
AD260A™	0.030" (0.762mm) ± 0.0020" 0.040" (1.016mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 54" (1220mm X 1372mm)
AD300C™	0.030" (0.762mm) ± 0.0020" 0.040" (1.016mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 54" (1220mm X 1372mm)
AD320A™	0.030" (0.762mm) ± 0.0020" 0.041" (1.041mm) ± 0.0020" 0.062" (1.575mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 36" X 48" (914mm X 1220mm)
AD350A™	0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 36" X 48" (914mm X 1220mm)
AD410™	0.030" (0.762mm) ± 0.0020" 0.062" (1.575mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 54" (914mm X 1220mm)
AD430™	0.030" (0.762mm) ± 0.0020" 0.050" (1.270mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 36" (1220mm X 914mm)
AD450™	0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 36" (1220mm X 914mm)
AD600™	0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
AD1000™	0.0105" (0.267mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.059" (1.499mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
CLTE-XT™	0.0051" (0.130mm) ± 0.0005" 0.0094" (0.239mm) ± 0.0007" 0.0145" (0.368mm) ± 0.0010" 0.020" (0.508mm) ± 0.0010" 0.030" (0.762mm) ± 0.0010" 0.060" (1.524mm) ± 0.0020" 0.120" (3.048mm) ± 0.0050"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CLTE™	0.0053" (0.135mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.015" (0.813mm) ± 0.0015" 0.020" (0.508mm) ± 0.0020" 0.024" (0.610mm) ± 0.0020" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0040" 0.125" (3.175mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
CLTE-AT™	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.015" (0.813mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.120" (3.048mm) ± 0.0060"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CuClad® 217	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0020" 0.125" (3.175mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CuClad 233	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.031" (0.787mm) ± 0.0020" 0.062" (1.575mm) ± 0.0020" 0.125" (3.175mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CuClad 250	0.0053" (0.135mm) ± 0.0005" 0.010" (0.254mm) ± 0.0009" 0.020" (0.508mm) ± 0.0020" 0.031" (0.787mm) ± 0.0020" 0.062" (1.575mm) ± 0.0020" 0.125" (3.175mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
DiClad® 880	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0020" 0.125" (3.175mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
DiClad 870	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
DiClad 527	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0020" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0020" 0.125" (3.175mm) ± 0.0050"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
DiClad 522	0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0020" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030" 0.125" (3.175mm) ± 0.0050"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) 36" X 48" (914mm X 1220mm)
IsoClad® 917	0.005" (0.127mm) ± 0.0007" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0020" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
IsoClad 933	0.005" (0.127mm) ± 0.0007" 0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0020" 0.031" (0.787mm) ± 0.0020" 0.060" (1.524mm) ± 0.0040"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT 1/2, 1, 2 oz rolled 1/2, 1 oz Ohmega & Ticer resistive foil Thick metal Aluminum, Copper, Brass	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO3003™ RO3035™ RO3203™	0.005" (0.127mm) ± 0.0005" (RO3203 not available with 0.005" (0.127mm)) 0.010" (0.254mm) ± 0.0007" 0.020" (0.508mm) ± 0.001" 0.030" (0.762mm) ± 0.0015" 0.060" (1.524mm) ± 0.003" Additional non-standard thicknesses available between 0.005" and 0.250"	¼, ½, 1, 2 oz ED (9, 18, 35, 70µm ED) ½, 1, 2 oz Rolled Cu (18, 35, 70µm Rolled Cu) * Additional charges may apply for Rolled Cu ½ oz and 1oz Ohmega Resistive Foil 6 oz Rolled Cu also available with RO3003 5 mil laminates	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)

Other dielectric thicknesses and panel sizes may be available. Contact customer service.

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
RO3006™ RO3010™ *RO3206™ *RO3210™ *not available in 0.005"(0.127mm) and 0.010"(0.254mm)	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.025" (0.635mm) ± 0.001" 0.050" (1.270mm) ± 0.002" Additional non-standard thicknesses available between 0.005" and 0.250"	½, 1, 2 oz ED (18, 35, 70µm ED) ½, 1, 2oz (18, 35, 70µm) Reverse Treat ½, 1oz (18, 35µm) Ohmega Resistive Foil	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO4725JXR™	0.0307" (0.780mm) ± 0.002" 0.0457" (1.161mm) ± 0.003" 0.0607" (1.542mm) ± 0.004"	½ oz (17µm), 1 oz (35µm) LoPro reverse treated ED foil	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 914mm) 48" X 36" (1220mm X 914mm) Larger sizes may be available upon request
RO4730JXR™	0.0307" (0.780mm) ± 0.002" 0.0407" (1.034mm) ± 0.003" 0.0607" (1.542mm) ± 0.004"	½ oz (17µm), 1 oz (35µm) LoPro reverse treated ED foil	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 914mm) 48" X 36" (1220mm X 914mm) Larger sizes may be available upon request
RO4533™	0.030" (0.762mm) ± 0.002" 0.040" (1.016mm) ± 0.003" 0.060" (1.524mm) ± 0.004" 0.0307" (0.780mm) ± 0.002" 0.0407" (1.034mm) ± 0.003" 0.0607" (1.542mm) ± 0.004"	½, 1 oz ED (18, 35µm ED) ½, 1 oz. LoPro reverse treated ED foil (18, 35µm LoPro reverse treated ED foil)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 914mm) 48" X 36" (1220mm X 914mm)
*RO4003C™ RO4360G2™	0.008" (0.203mm) ± 0.001" 0.012" (0.305mm) ± 0.001" 0.016" (0.406mm) ± 0.0015" 0.020" (0.508mm) ± 0.0015" 0.032" (0.813mm) ± 0.002" 0.060" (1.524mm) ± 0.004" *Non-standard thicknesses available in 4 mil increments starting from a 20 mil base	½, 1, 2 oz ED (18, 35, 70µm ED) *½, 1 oz. LoPro™ reverse treated ED foil (18, 35µm LoPro reverse treated ED foil) LoPro foil will add .0007" (0.0177mm) to the board thickness ½ oz Ohmega and Ticer Resistive Foil available on RO4003C	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 36" (1220mm X 914mm)
RO4350B™/ RO4835™	0.0040" (0.101mm) ± 0.0007" (RO4835 0.0040" available with LoPro foil only) 0.0066" (0.168mm) ± 0.0007" 0.010" (0.254mm) ± 0.001" 0.0133" (0.338mm) ± 0.0015" 0.0166" (0.422mm) ± 0.0015" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.002" 0.060" (1.524mm) ± 0.004" *Non-standard thicknesses available in 3.3 mil increments starting from a 20 mil base	½, 1, 2 oz ED(18, 35, 70µm ED) ½, 1 oz. LoPro reverse treated ED foil (18, 35µm LoPro reverse treated ED foil) LoPro foil will add .0007" (0.0177mm) to the board thickness	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 48" X 36" (1220mm X 914mm)
RO4534™	0.032" (0.813mm) ± 0.002" 0.040" (1.016mm) ± 0.003" 0.060" (1.524mm) ± 0.004" 0.0327" (0.831mm) ± 0.002" 0.0407" (1.034mm) ± 0.003" 0.0607" (1.542mm) ± 0.004"	½, 1 oz ED (18, 35µm ED) ½, 1 oz. LoPro reverse treated ED foil (18, 35µm LoPro reverse treated ED foil)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 914mm) 48" X 36" (1220mm X 914mm)
RO4535™	0.030" (0.762mm) ± 0.002" 0.040" (1.016mm) ± 0.003" 0.060" (1.524mm) ± 0.004" 0.0307" (0.780mm) ± 0.002" 0.0407" (1.034mm) ± 0.003" 0.0607" (1.542mm) ± 0.004"	½, 1 oz ED (18, 35µm ED) ½, 1 oz. LoPro reverse treated ED foil (18, 35µm LoPro reverse treated ED foil)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 914mm) 48" X 36" (1220mm X 914mm)
RT/duroid 5880LZ	0.010" (0.254mm) ± 0.0010" 0.020" (0.508mm) ± 0.0010" 0.025" (0.635mm) ± 0.0020" 0.030" (0.762mm) ± 0.0020" 0.040" (1.016mm) ± 0.0020" 0.050" (1.270mm) ± 0.0030" 0.100" (2.540mm) ± 0.0050" Non-standard thicknesses available	½, 1 oz (18, 35µm) ED	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) Non-Standard size available up to 24" X 54" (610mm X 1372mm)

Thickness, Tolerance & Panel Size in (mm)

Laminates

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
RT/duroid® 5870 RT/duroid 5880	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.015" (0.381mm) ± 0.0010" 0.020" (0.508mm) ± 0.0010" 0.031" (0.787mm) ± 0.0010" 0.062" (1.575mm) ± 0.0020" 0.125" (3.175mm) ± 0.0040" Non-Standard thicknesses available	¼", ½, 1, 2* oz (9, 18, 35, 70µm) ED ½, 1, 2* oz (18, 35, 70µm) Rolled Copper ½, 1, 2* oz (18, 35, 70µm) Reverse Treated ½, 1 oz (18, 35µm) Ohmega resistive foil Thick metal Aluminum, Copper, Brass * Note: Please check with Rogers' Representative to confirm availability.	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) Non-Standard size available up to 18" X 48" (457mm X 1219mm)
RT/duroid 6002	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.020" (0.508mm) ± 0.0010" 0.030" (0.762mm) ± 0.0015" 0.060" (1.524mm) ± 0.0020" 0.120" (3.048mm) ± 0.0060"	¼", ½, 1, 2* oz (18, 35, 70µm) ED ½, 1, 2* oz (18, 35, 70µm) Rolled Copper ½, 1 oz (18, 35µm) Ohmega & Ticer resistive foil ½, 1, 2* oz (18, 35, 70µm) Reverse Treated Thick metal Aluminum, Copper, Brass - 6002 only	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) Non-Standard size available up to 24" X 54" (610mm X 1372mm)
RT/duroid 6202	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.015" (0.381mm) ± 0.0010" 0.020" (0.508mm) ± 0.0010" 0.030" (0.762mm) ± 0.0010" 0.060" (1.524mm) ± 0.0020"	* Note: Please check with Rogers' Representative to confirm availability.	
RT/duroid 6202PR	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0007" 0.015" (0.381mm) ± 0.0010" 0.020" (0.508mm) ± 0.0010"	¼", ½, 1, 2* oz (18, 35, 70µm) ED ½, 1, 2* oz (18, 35, 70µm) Reverse Treated ½, 1, 2* oz (18, 35, 70µm) Rolled Copper ½, 1 oz (18, 35µm) Ohmega-ply® resistive foil ½, 1 oz (18, 35µm) Ticer resistive foil * Note: Please check with Rogers' Representative to confirm availability.	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) Non-Standard size available up to 24" X 54" (610mm X 1372mm)
RT/duroid 6035HTC	0.010" (0.254mm) ± 0.0007" 0.020" (0.508mm) ± 0.001" 0.030" (0.762mm) ± 0.0015" 0.060" (1.524mm) ± 0.003"	½, 1, 2 oz (18, 35, 70µm) ED ½, 1 oz (18, 35µm) Reverse Treated	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RT/duroid 6010LM	0.005" (0.127mm) ± 0.0005" 0.010" (0.254mm) ± 0.0010" 0.025" (0.635mm) ± 0.0010" 0.050" (1.270mm) ± 0.0020" 0.075" (1.905mm) ± 0.0040" 0.100" (2.540mm) ± 0.0050"	¼", ½, 1, 2* oz (18, 35, 70µm) ED ½, 1, 2* oz (18, 35, 70µm) Reverse Treated ½, 1 oz (18, 35µm) Ohmega resistive foil Thick metal Aluminum, Copper, Brass * Note: Please check with Rogers' Representative to confirm availability.	10" X 10" (254mm X 254mm) 10" X 20" (254mm X 508mm) 18" X 12" (457mm X 305mm) Available in 0.025" Dielectric Thickness Increments Only 18" X 24" (457 X 610mm) - Non-Standard not available in 0.005" (0.127mm) and 0.010" (0.254mm)
TC350™	0.010" (0.254mm) ± 0.0007" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
TC600™	0.010" (0.254mm) ± 0.0007" 0.020" (0.508mm) ± 0.0015" 0.030" (0.762mm) ± 0.0020" 0.060" (1.524mm) ± 0.0030"	1/2, 1, 2 oz ED 1/2, 1, 2 oz RT	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
TMM® 3 TMM 4 TMM 6 TMM 10 TMM 10i TMM 13i	0.015" (0.381mm) ± 0.0015" 0.020" (0.508mm) ± 0.0015" 0.025" (0.635mm) ± 0.0015" 0.030" (0.762mm) ± 0.0015" 0.050" (1.270mm) ± 0.0015" 0.060" (1.524mm) ± 0.0015" 0.075" (1.905mm) ± 0.0015" 0.100" (2.540mm) ± 0.0015" 0.125" (3.175mm) ± 0.0015" 0.150" (3.810mm) ± 0.0015" 0.200" (5.080mm) ± 0.0015" 0.250" (6.350mm) ± 0.0015" 0.275" (6.985mm) ± 0.0015" 0.300" (7.620mm) ± 0.0015" 0.500" (12.70mm) ± 0.0015" Non-Standard thicknesses available	½, 1, 2 oz (18, 35, 70µm) ED Thick metal Aluminum & Brass	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

Thickness, Tolerance & Panel Size in (mm)

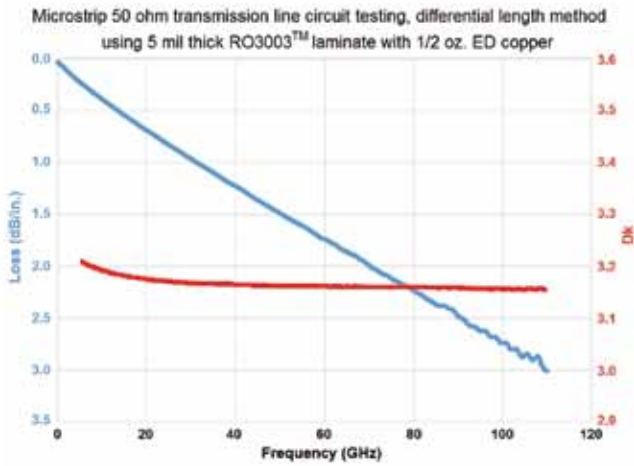
Laminates

Product	Standard Dielectric Thickness (Without The Cladding)	Available Claddings	Standard Panel Sizes
ULTRALAM® 3850HT	0.001" (0.025mm) ± 15% 0.002" (0.050mm) ± 12.5% 0.004" (0.100mm) ± 10% 0.007" (0.175mm) ± 10%	¼, ½ oz (9, 18µm) very low profile Reverse Treated ED foil	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
XT/duroid® 8000 XT/duroid 8100	0.002" (0.051mm) ± 12.5% 0.002" (0.051mm) ± 12.5% 0.004" (0.102mm) ± 12.5%	½ (18µm) very low profile Reverse Treated ED foil	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

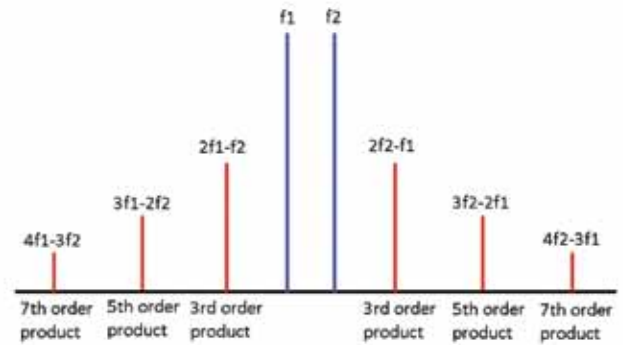
Electrical Characterization Capabilities

Multiple Test Methods Used:

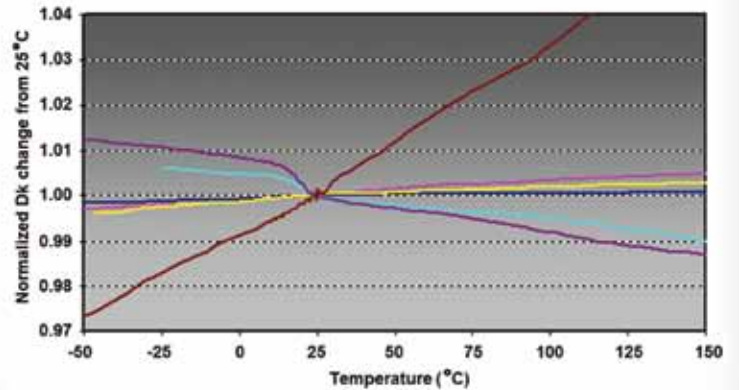
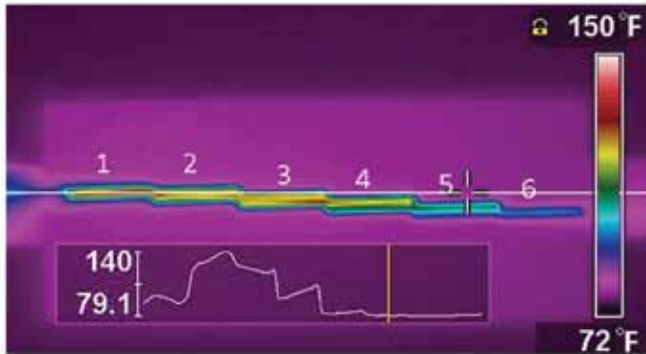
- Clamped Stripline Resonator
- Split Post Dielectric Resonator
- Full Sheet Resonance
- Ring Resonators
- Waveguide Perturbation



Very wideband insertion loss & phase measurements



PIM Testing Capabilities



Circuit Materials:

— RO3003™	— RO4003™	— RO4835™
— PTFE / WG	— Epoxy / WG	— PTFE / Ceramic / WG

Ordering Materials From Rogers Advanced Connectivity Solutions:

Rogers Corporation has global customer service locations to assist with the order process. Please see the back of the guide to determine which office in the Americas, Europe or Asia is most convenient for you.

The following represents a typical process for determining a material to purchase and placing an order:

Step 1

Determining the ACS Material Product Grade to Use

Rogers Advanced Connectivity Solutions provides a wide range of specialty material types (PTFE, hydrocarbon ceramic, LCP, etc.) to offer unique combinations of electrical, thermal and mechanical properties. Performance requirements usually determine which ACS Product Grade best suits the application. For example, if requirements point to material with the lowest dissipation factor (tan d) combined with a high dielectric constant, that may lead to one of our PTFE offerings. In another example mechanical strength may be required, pointing to a thermoset product, such as RO4000® laminate.

Common examples of ACS product grades include: RT/duroid® 5880, CLTE-XT™, RO4350B™, RO3003™, AD300C™, TMM® and ULTRALAM® 3000. It is critical to pick the correct material grade when you order. Our technical experts are happy to assist you in making that determination.

Step 2

Choosing Thickness and Thickness Tolerance

Following IPC guidelines, laminate thickness is specified as dielectric thickness and does not include thickness of copper foil or other metal claddings. In most cases, thickness tolerance is defined by product grade and thickness. However, custom tolerances are considered upon request for certain high reliability products (RT/duroid and CLTE Series™ laminates are examples).

Special charges may apply for customers requesting non-standard thicknesses or tolerances. Please see pages 14-19 for a list of standard panel sizes and thicknesses by product grade.

Step 3

Selecting Cladding Type

Rogers offers cladding options which include ¼, ½, 1, & 2 oz. electrodeposited copper foil; ½, 1, & 2 oz. reverse treated copper foil; and ½, 1, & 2 oz. rolled copper foil. Not all laminate systems are available with all copper foil claddings. For example, TMM and RO4000 series laminates are not supplied with ¼ oz. electrodeposited foil or rolled copper foil.

Thick metal claddings such as aluminum, copper and brass are available on Rogers RT/duroid, CLTE™, DiClad®, CuClad® and IsoClad® laminates and may be based on dielectric thickness. Thick aluminum, copper, and brass claddings are also available in a range of thicknesses and thickness tolerances. Thick aluminum and brass claddings are available on most TMM laminates. Please note, thick metal cladding is not available on RO4000 laminates.

Some material grades may be supplied unclad. Call Rogers' Customer Service Representatives to discuss options.

Step 4

Picking your Panel Size*

Finally, you need to select the panel size dimensions you desire. For example, a very common panel size in the printed circuit board industry is 24" (610mm) x 18" (457mm).

Please note, different product grades may have different standard panel sizes due to unique manufacturing processes. Special charges typically apply for non-standard panel sizes. Please see pages 14-19 for a list of standard panel sizes and thicknesses by product grade.

*Various terminology is used in the industry to represent panel dimensions. Rogers' panel dimensions are always listed as: Cross machine(Y) x Machine direction(X).

Specification Requirements and Terms and Conditions of Sale

Rogers material specifications are applicable unless otherwise agreed upon prior to order. Certificates of conformance are available for purchased goods. All other requirements must be discussed at the time the order is placed. If special testing or data generation is required, additional costs may be incurred.




For Rogers Terms and Conditions of Sale, please go to:
www.rogerscorp.com/pages/termsconditions.aspx

About Advanced Connectivity Solutions

Advanced Connectivity Solutions manufactures high frequency laminates and prepregs for applications in wireless base station, aerospace and defense, automotive, high-speed digital and advanced chip packaging industries. All of our products are manufactured in ISO-9001:2008 certified facilities.

IPC Slash Sheet Definitions

Product	Legacy 4103/	4103A/
RO4003C	10	240
RO4350B	11	240
RO4835	11	240
RO4360G2	NA	270
RO4533	10	240
RO4534	10	240
RO4535	11	240
RO4725JXR	NA	220
RO4730JXR	NA	230
RO4450B	11	540
RO4450F	11	540



Rogers' high frequency laminates can be purchased by contacting a Rogers' Customer Service Representative. Refer to back cover for contact information.

Interpreting Rogers Part Descriptions for:

**RT/duroid[®], RO4000[®],
RO3000[®], TMM[®],
ULTRALAM[®] 3000,
XT/duroid[®]**

5880 18x12 H2/H2 R3 0200+-001 DI OV

Product Grade

Panel Size

Metal Cladding

Revision Number
(When Applicable)

Dielectric Thickness & Tolerance

Dielectric Thickness
(When Applicable)

May See OV Which
Stands For Overall
Thickness
(When Applicable)

5880 18X12 H2/H2 R3 0200+-001/DI

ROGERS Copper Foil Designation

Copper Weight	Rogers Clad Designation	IPC-4562A						
		Foil Grade (1.2.4)	Foil Thickness (1.2.5)	Bond Enhancement Treatment (1.2.6)	Foil Profile (1.2.7)			
1/4 oz	HQ	STD-E	Q (9 µm)	S	L			
	CQ				V			
1/2 oz	5E	HTE-E	H (1/2 oz, 18 µm)	S	S			
	5ED				L			
	5E							
	5ED							
	HH				R-LoPro			
	5TC							
	SH				R			
	AH				S	V		
	5R							
	5RD							
1 oz	25RFO(1)(2)-5E(D)	HTE-E	1 (1 oz, 35 µm)	S	S-25 OPS Omega			
	50RFO(1)(2)-5E(D)				S-50 OPS Omega			
	100RFO(1)(2)-5E(D)				S-100 OPS Omega			
	25RFT(3)(4)-5E(D)				S-25 OPS Ticer			
	50RFT(3)(4)-5E(D)				S-50 OPS Ticer			
	100RFT(3)(4)-5E(D)				S-100 OPS Ticer			
	1E				HTE-E	1 (1 oz, 35 µm)	S	S
	1ED							L
1E								
1ED								
H1	R-LoPro							
1TC								
S1	R							
A1	S	V						
1R								
1RD								
1 oz	25RFO(1)(2)-1E(D)	HTE-E	1 (1 oz, 35 µm)	S	S-25 OPS Omega			
	50RFO(1)(2)-1E(D)				S-50 OPS Omega			
	100RFO(1)(2)-1E(D)				S-100 OPS Omega			
	25RFT(3)(4)-1E(D)				S-25 OPS Ticer			
	50RFT(3)(4)-1E(D)				S-50 OPS Ticer			
	100RFT(3)(4)-1E(D)				S-100 OPS Ticer			
	2E				HTE-E	2 (2 oz, 70 µm)	S	S
	2ED							L
H2	R							
S2								
A2	S	V						
2R								
2RD								





Interpreting Rogers Part Numbers for:

AD Series™, TC Series™, CLTE Series™, DiClad® Series, IsoClad® Series & CuClad® Series

For reference only. Please contact your representative for additional product options, specific dielectric designs or requirements & availability.

AD Series & TC Series™ (including AD "A" or "C")

A D	4 5 0	L	0 4 0	1 1	. 0 1 3
Product Grade (AD)	Dk (4.50 – approximate Dk for product, varies by thickness)	Laminate Version Identifier	Thickness in Inches (0.040")	Cladding Code Side 1,2 (11 = 1oz ED, 1oz ED)	Space Holder / Special Options
					Panel Size Code (013 = 36"x48")

CLTE Series, CLTE-XT™, CLTE-AT™ & CLTE™

C L T E X T	0 1 0	5 5	. 0 0 1
Product Grade (CLTE-XT)	Nominal Base Dielectric Thickness in Inches (0.010")	Cladding Code Side 1,2 (55 = 1/2oz ED, 1/2oz ED)	Space Holder / Special Options
			Panel Size Code (001 = 18"x24")

DiClad & IsoClad Series 522, 527, 870, 880, 917 & 933

5 2 7	B	0 3 0	1 1	5 5	.	0 1 4
Product Grade (DiClad 527)	Laminate Thickness Type (B=Base T=Total)	Thickness in Inches (0.030")	Cladding Code Side 1,2 (11 = 1oz ED, 1oz ED)	Dk (Assumes "2." = 2.55)	Space Holder / Special Options	Panel Size Code (014 = 16"x36")

CuClad Series 250, 233 & 217 (GX, LX, GY, GT)

G T	-	0 3 1 2	5 0	1 1	.	0 0 2
Product Grade (GT)	Space Holder / Special Options	Thickness in Inches (0.0312")	Dk (Assumes "2." = 2.50)	Cladding Code Side 1,2 (11 = 1oz ED, 1oz ED)	Space Holder / Special Options	Panel Size Code (002 = 12"x18")

Codes for Typical Copper Cladding & Panel Size

Metal Cladding Codes	
Code	Copper Wype & Weight
1	1 oz ED
2	2 oz ED
3	1/2 oz Rolled
4	1 oz Rolled
5	1/2 oz Ed
7	1/2 oz Reverse Treated ED
8	2 oz Reverse Treated ED
9	1 oz Reverse Treated ED
0	Unclad

Panel Size Codes		
Panel Size (inches)	Panel Size (mm)	Code
18 x 24	547 x 610	001
12 x 18	305 x 457	002
18 x 36	457 x 915	004
36 x 48	915 x 1220	013
16 x 36	407 x 915	014
24 x 36	61 x 915	057
18 x 48	457 x 1220	072
48 x 54	1220 x 1372	615
24 x 54	610 x 1372	825

ROGERS cares

As part of our ROGERS Cares initiative, we aim to show you how Rogers is making a difference in our world. Here at Rogers, we are powering, protecting, and connecting our world. This is how.

Environmental Protection:

We are committed to compliance with regulations. We are consistently looking for ways to make the work we do safer and better for the environment.



Employee Safety:

Workplace safety and employee health is a priority. Production is shut down immediately if something is unsafe. The priority always is for employees to go home in the same condition they arrived to work.



Social Consciousness

& Community Participation:

We know that a company can have an impact not only on the environment, but in the community in which it operates as well. Being a socially responsible company is important, and our collaborative culture encourages employee involvement. Being involved in the community is an integral part of life at Rogers. There are numerous ways employees can get involved.



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