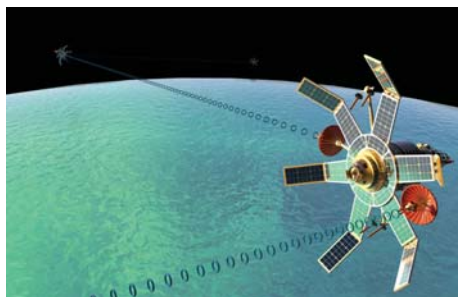


RO3035HTC™ High Frequency Laminate

RO3035HTC™ high frequency circuit materials are ceramic filled PTFE composites for use in high power RF and microwave applications.

With a thermal conductivity of >2.5 times the standard RO3000® products, and copper foil (electrodeposited and reverse treat) with excellent long term thermal stability, RO3035HTC laminates are an exceptional choice for high power applications.

Rogers advanced filler system enables excellent drill ability, reducing drilling costs as compared to standard high thermally conductive laminates which use alumina fillers.



Data Sheet

FEATURES/BENEFITS:

High Thermal conductivity

- Improved dielectric heat dissipation enables lower operating temperatures for high power applications

Low loss tangent

- Excellent high frequency performance

Thermally stable low profile and reverse treat copper foil

- Lower insertion loss and excellent thermal stability of traces

Advanced filler system

- Improved drill ability and extended tool life compared to alumina-containing circuit materials

SOME TYPICAL APPLICATIONS:

- High power RF and microwave amplifiers
- Power amplifiers, couplers, filters, combiners, power dividers



Property	Typical Value ^[1] RO3035HTC	Direction	Units	Condition	Test Method
Dielectric Constant, ϵ_r , Process	3.50 ± 0.05	Z		10 GHz/23°C	IPC-TM-650 2.5.5.5 Clamped Stripline
^[2] Dielectric Constant, ϵ_r , Design	3.6	Z		8 GHz - 40 GHz	Differential Phase Length Method
Dissipation Factor,	0.0013	Z		10 GHz/23°C	IPC-TM-650, 2.5.5.5
Thermal Coefficient of ϵ_r	-66	Z	ppm/°C	-50°C to 150°C	mod IPC-TM-650, 2.5.5.5
Volume Resistivity	10 ⁸		MΩ•cm	COND A	IPC-TM-650, 2.5.17.1
Surface Resistivity	10 ⁸		MΩ	COND A	IPC-TM-650, 2.5.17.1
Tensile Modulus	329 244	MD CMD	kpsi	40 hrs @ 23°C/50RH	ASTM D638
Dimensional Stability	-0.11 -0.08	CMD MD	mm/m (mils/inch)	0.030" 1 oz EDC foil Thickness after etch +E4/105	IPC-TM-650, 2.4.39A
Coefficient of Thermal Expansion	19	X	ppm/°C	-55 to 288°C	ASTM D-3386
	19	Y			
	39	Z			
Thermal Conductivity	1.44		W/m/K	80°C	ASTM C518
Moisture Absorption	0.06		%	D24/23	IPC-TM-650 2.6.2.1 ASTM D570
Density	2.2		gm/cm ³	23°C	ASTM D-792
Copper Peel Strength	7.9		pli	20 sec.@ 288°C	IPC-TM-650 2.4.8
Flammability	V-0				UL 94
Lead-Free Process Compatible	YES				

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

[2] The design Dk is an average number from several different tested lots of material and on the most common thickness/s. If more detailed information is required, please contact Rogers Corporation. Refer to Rogers' technical paper "Dielectric Properties of High Frequency Materials" available at <http://www.rogerscorp.com/acm>.

Standard Thickness	Standard Panel Size:	Standard Copper Cladding
0.010" (0.254mm)	12" X 18" (305 X 457mm) 24" X 18" (610 X 457mm)	½ oz. (18µm) Electrodeposited copper foil (HH/HH)
0.020" (0.508mm)		1 oz. (35µm) Electrodeposited copper foil (H1/H1)
0.030" (0.762mm)		½ oz. (18µm) Reverse treat copper foil (SH/SH)
0.060" (1.524mm)		1 oz. (35µm) Reverse treat copper foil (S1/S1)

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