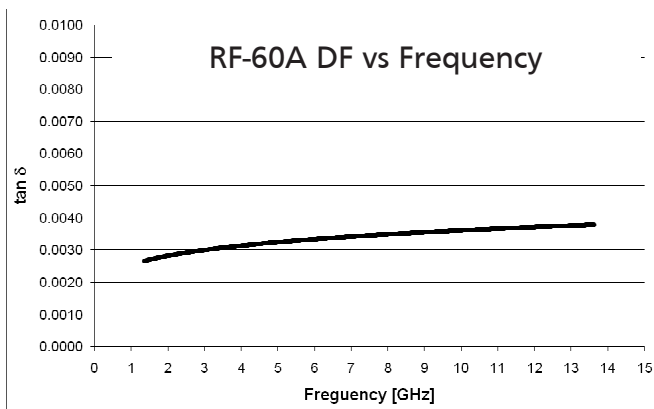
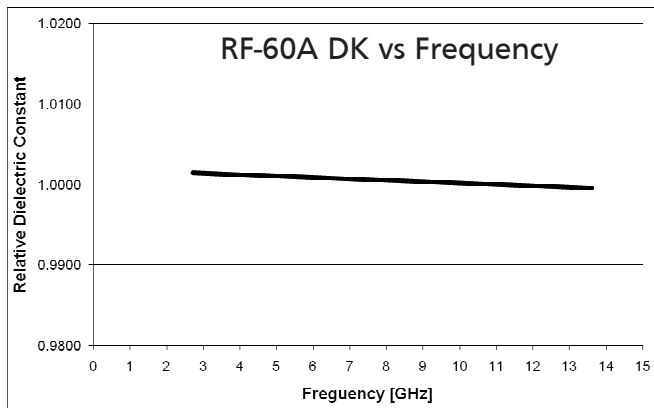


## RF-60A Low Moisture Absorption Material

RF-60A is an organic ceramic fiberglass reinforced laminate. This product's unique composition results in low moisture absorption and uniform electrical properties.

RF-60A's woven fiberglass reinforcement assures excellent dimensional stability and enhanced flexural strength as well as low Z-axis expansion which allows for plated-through-hole reliability in extreme thermal environments. RF-60A also exhibits exceptional interlaminar bond strength and solder resistance.



### Benefits & Applications:

- Low Moisture Absorption
- Stable Dk over Frequency
- Dimensionally Stable
- Low Z-axis Expansion
- High Flexural Strength
- Exceptional Interlaminar Bonds
- ROHS & WEEE Compliant

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- Power Amplifiers
  - Filters & Couplers
  - Passive Components
  - Antennas

RF-60A Typical Values					
Property	Test Method	Unit	Value	Unit	Value
Dk @ 10 GHz	IPC-650 2.5.5.6		6.15		6.15
Df @ 10 GHz	IPC-650 2.5.5.5.1		0.0028		0.0028
Moisture Absorption	IPC-650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-650 2.5.6	kV	53	kV	53
Dielectric Strength	ASTM D 149	V/mil	880	kV/mm	35
Volume Resistivity	IPC-650 2.5.17.1 (After Humidity)	Mohm/cm	9.0 x 10 <sup>8</sup>	Mohm/cm	9.0 x 10 <sup>8</sup>
Surface Resistivity	IPC-650 2.5.17.1 (After Humidity)	Mohm	2.28 x 10 <sup>8</sup>	Mohm	2.28 x 10 <sup>8</sup>
Arc Resistance	IPC-650 2.5.1	Seconds	193	Seconds	193
Flexural Strength (MD)	ASTM D 790	psi	18,300	N/mm <sup>2</sup>	126.2
Flexural Strength (CD)	ASTM D 790	psi	14,600	N/mm <sup>2</sup>	100.7
Tensile Strength (MD)	ASTM D 3039	psi	19,500	N/mm <sup>2</sup>	134.4
Tensile Strength (CD)	ASTM D 3039	psi	16,300	N/mm <sup>2</sup>	112.4
Young's Modulus	ASTM D 3039	kpsi	15,300	N/mm <sup>2</sup>	10,549
Poisson's Ratio	ASTM D 3039		0.068		0.068
Compressive Modulus	ASTM D 695 (23°C)	kpsi	338	N/mm <sup>2</sup>	2,330
Peel Strength (1 oz. ED)	IPC-650 2.4.8 Sec. 5.2.2 (Thermal Stress)	lbs/in	8	N/mm	1.4
Dimensional Stability (MD)	IPC-650 2.4.39 Sec. 5.4 (After Bake)	mils/in	0.68	mm/M	0.68
Dimensional Stability (CD)	IPC-650 2.4.39 Sec. 5.4 (After Bake)	mils/in	1.05	mm/M	1.05
Density (Specific Gravity)	ASTM D 792	g/cm <sup>3</sup>	2.81	g/cm <sup>3</sup>	2.81
Thermal Conductivity	ASTM F 433	W/M*K	0.54	W/M*K	0.54
CTE (X axis)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	9	ppm/°C	9
CTE (Y axis)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	8	ppm/°C	8
CTE (Z axis)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	69	ppm/°C	69
Outgassing (% TML)	ASTM E 595*	%	0.02	%	0.02
Outgassing (% CVCM)	ASTM E 595*	%	0.00	%	0.00
Outgassing (% WVR)	ASTM E 595*	%	0.01	%	0.01
Flammability Rating	UL 94		V-0		V-0

\*As reported by NASA. See [http://outgassing.nasa.gov/og\\_disclaimer.html](http://outgassing.nasa.gov/og_disclaimer.html)

All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

Designation	Dk	Typical Thicknesses <sup>1</sup>	
		Inches	mm
RF-60A	6.15 ± 0.25	0.0100	0.25
		0.0250	0.64
		0.0310	0.79
		0.0500	1.27
		0.0600	1.52
		0.1250	3.18

Available Sheet Sizes <sup>2</sup>	
Inches	mm
12 x 18	305 x 457
16 x 18	406 x 457
18 x 24	457 x 610

<sup>1</sup> Please call for availability of additional thicknesses.

<sup>2</sup> Standard sheet size is 18" x 24" (457 mm x 610 mm). Please call for availability of other sizes.

Please see our Product Selector Guide for information on available copper cladding. Heavy metal claddings (aluminium, brass & copper) may also be available upon request.

An example of our part number is:

**RF-60A-0600-C1/C1 - 18" x 24"**  
**(457 mm x 610 mm)**

