



LNB33

Glass Reinforced Hydrocarbon Ceramic High Frequency Circuit Material

FEATURES

- Stable electrical properties versus frequency.
- Glass-reinforced hydrocarbon and ceramic dielectric
- Low Z-axis expansion and excellent dimensional stability.

APPLICATIONS

- LNA/LNB
- High frequency wireless communication
- Satellite signal transmission equipment
- Microstrip and Cellular Base Station Antennas
- Base Station Antennas and Power Amplifiers

GENERAL PROPERTIES

Test Items	Test Method	Condition	Unit	Typical Value
Dielectric Constant, Process Dk	IPC-TM-650 2.5.5.5	C-24/23/50,10GHz	-	3.30±0.05
Dielectric Constant,Dk	IEC 61189-2-721	C-24/23/50,10GHz	-	3.45±0.05
Dissipation Factor,Df	IPC-TM-650 2.5.5.5	C-24/23/50,10GHz	-	0.0025
	IEC 61189-2-721	C-24/23/50,10GHz		0.0032
Thermal Coefficient of Dk	IEC 61189-2-721	-40℃~150℃,10GHz	ppm/℃	+125
Volume Resistivity	IPC-TM-650 2.5.17.1	A	MΩ•cm	6.8x10 ⁸
Surface Resistivity	IPC-TM-650 2.5.17.1	A	MΩ	5.3x10 ⁷
Tg	IPC-TM-650 2.4.25	DSC	℃	>280
Td	IPC-TM-650 2.4.24.6	5% wt. loss	℃	>400
CTE (Z-axis)	IPC-TM-650 2.4.24	30-260℃	ppm/℃	55
CTE (X/Y-axis)	IPC-TM-650 2.4.41	30-260℃	ppm/℃	13/15
Peel Strength	IPC-TM-650 2.4.8	288℃/10s	N/mm [lb/in]	1.0 [5.71]
Flexural Strength	IPC-TM-650 2.4.4	A	MPa	235
Water Absorption	IPC-TM-650 2.6.2.1	D-24/23	%	0.1
Thermal Conductivity	ASTM D5470	100℃	W/(m•K)	0.69
Tensile Modulus(LW/CW)	ASTM D638	A	GPa	15.6/19.7
Tensile Strength(LW/CW)	ASTM D638	A	MPa	112/143

Notes: All the typical value is based on the 0.51mm (0.020") thickness specimen.

PRODUCT SPECIFICATION

Product	Standard Thickness Offerings	Standard Panel Sizes	Standard Copper Cladding
LNB33	0.010"(0.25mm) 0.020"(0.51mm) 0.030"(0.76mm) 0.040"(1.02mm) 0.050"(1.27mm) 0.060"(1.52mm)	36"x 48" & 40"x48" & 42"x48"	Hoz, 1oz, 2oz HTE
LNB33(CH1) ^[1]	0.0107"(0.27mm) 0.0207"(0.53mm) 0.0307"(0.78mm) 0.0407"(1.04mm) 0.0507"(1.29mm) 0.0607"(1.54mm)	Additional sizes may be available upon request	Hoz, 1oz Low profile copper foil

[1] For double-sided boards, LNB33(CH1) results in a thickness increase of approximately 0.0007" (18μm) and the Dk decreases by about 0.1 as the core thickness decreases from 0.0207" to 0.0107".

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