



## IS620i

IS620i is the first material in the digital products class built upon existing technologies, yet offering significant advantages for today's digital world.

The resin matrix of IS620i is uniquely formulated for high-speed applications ranging from 2 to 15 GHz, and offers designers and fabricators the flexibility of digital design, the assurance of supply and the ease of conventional FR-4 processing. IS620i is the first material in its class to offer the complete package of these critical features: low loss with a flat response over frequency, availability in both laminate and prepreg form in all typical thicknesses and sizes and the ability to use conventional fabrication techniques.

#### ORDERING INFORMATION:

Contact your local sales representative or visit [www.isola-group.com](http://www.isola-group.com) for further information.

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## Performance

**Tg 225°C**

**Td 364°C**

**Dk 3.58**

**Df 0.006**

**zIPC- 4101C /21 /24 /26 /98 /101 /126**

**UL - File Number E41625**

**Qualified to UL's MCIL Program**

### Product Features

- Industry Recognition
  - UL File Number: E41625
  - RoHS Compliant
- Performance Attributes
- Processing Advantages
  - UV blocking and AOI fluorescence

### Product Availability

- Standard Material Offering: Laminate
  - 2 to 60 mil (0.5 to 1.5 mm)
  - Available in full size sheet or panel form
- Copper Foil Type
  - HTE Grade 3
  - RTF (Reverse Treat Foil)
- Copper Weight
  - ½ to 2 oz (18 to 70 µm) available
  - Heavier copper available
  - Thinner copper foil available
- Standard Material Offering: Prepreg
  - Roll or panel form
  - Tooling of prepreg panels
- Glass Fabric Availability
  - E-glass
  - Square weave glass

# IS620i Specifications

Property		Typical Value	Units	Test Method
			Metric (English)	IPC-TM-650 (or as noted)
Glass Transition Temperature (Tg) by DSC		225	°C	2.4.25
Decomposition Temperature (Td) by TGA @ 5% weight loss		364	°C	2.4.24.2
Time to Delaminate by TMA (Copper removed)	A. T260 B. T288	60 >20	Minutes	2.4.24.1
Z-Axis CTE	A. Pre-Tg B. Post-Tg C. 50 to 260°C, (Total Expansion)	55 230 2.8	ppm/°C ppm/°C %	2.4.24
X/Y-Axis CTE	Pre-Tg	13	ppm/°C	2.4.24.1
Thermal Conductivity		0.35	W/mK	ASTM E1952
Thermal Stress 10 sec @ 288°C (550.4°F)	A. Unetched B. Etched	Pass	Pass Visual	2.4.13.1
Dk, Permittivity	A. @ 100 MHz B. @ 1 GHz C. @ 2 GHz D. @ 5 GHz E. @ 10 GHz	3.59 3.58 3.58 3.54 3.54	—	2.5.5.3 2.5.5.9 Bereskin Stripline Bereskin Stripline Bereskin Stripline
Df, Loss Tangent	A. @ 100 MHz B. @ 1 GHz C. @ 2 GHz D. @ 5 GHz E. @ 10 GHz	0.0051 0.0059 0.0060 0.0066 0.0071	—	2.5.5.3 2.5.5.9 Bereskin Stripline Bereskin Stripline Bereskin Stripline
Volume Resistivity	A. After moisture resistance B. At elevated temperature	$8.9 \times 10^8$ $6.5 \times 10^8$	MΩ-cm	2.5.17.1
Surface Resistivity	A. After moisture resistance B. At elevated temperature	$2.21 \times 10^6$ $4.4 \times 10^8$	MΩ	2.5.17.1
Dielectric Breakdown		>50	kV	2.5.6
Arc Resistance		110	Seconds	2.5.1
Electric Strength (Laminate & laminated prepreg)		55 (1400)	kV/mm (V/mil)	2.5.6.2
Comparative Tracking Index (CTI)		2 (250-399)	Class (Volts)	UL 746A ASTM D3638
Peel Strength	A. Low profile copper foil and very low profile copper foil all copper foil >17 μm [0.669 mil] B. Standard profile copper 1. After thermal stress 2. After process solutions	1.14 (6.5) 0.96 (5.5) 0.90 (5.1)	N/mm (lb/inch)	2.4.8 2.4.8.2 2.4.8.3
Flexural Strength	A. Length direction B. Cross direction	69,200 62,400	lb/inch <sup>2</sup>	2.4.4
Tensile Strength	A. Length direction B. Cross direction	42,065 39,650	lb/inch <sup>2</sup>	ASTM D3039
Poisson's Ratio	A. Length direction B. Cross direction	0.166 0.164	—	ASTM D3039
Moisture Absorption		0.24	%	2.6.2.1
Flammability (Laminate & laminated prepreg)		V-0	Rating	UL 94
Max Operating Temperature		130	°C	UL 796

The data, while believed to be accurate and based on analytical methods considered to be reliable, is for information purposes only. Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.

[isola.keostaging.com/products/printed-circuit-materials/product-template-copy-16/](http://isola.keostaging.com/products/printed-circuit-materials/product-template-copy-16/)

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