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EMI/RFI Board, Enclosure, Cable Shielding & Thermal Solutions

LT Product Profile

00440D



EMI/RFI Board, Enclosure,
Cable Shielding & Thermal Solutions

Thermal Gap Fillers TGF10-TGF80



LED LIGHTING | MICRO PROCESSORS | INTEGRATED CIRCUITS | MOBILE ELECTRONICS | POWER CONVERSIONS | HEAT SINK INTERFACE



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Thermal Gap Fillers TGF10-TGF80

Thermal gap fillers are a reliable heat transfer media which conform to surface gaps and irregularities to fill the air gaps and conduct heat from a heat source to another surface, or heat sink. Where space exists between two mating surfaces varies, whether from different shapes or rough surface textures, a thermal transfer concern is often present. Available in a wide variety of shapes, sizes, and thermal conductivities, thermal gap fillers are a cost-effective solution for some of the most difficult and delicate thermal situations in a broad range of applications. Please note that the that the value of our products increase with their performance. Please contact customer service for custom quotes.

Part Series Key

- TGF- Thermal Gap Filler
- SF Silicone Free
- S Soft
- BN Boron Nitride

Applications

- LED Lighting
- Micro Processors
- Integrated Circuits
- Mobile Electronics
- Power Conversions
- Heat Sink Interface

Benefits

- Low Cost
- Short Lead Times
- Custom Shapes
- Self Tacking
- Increased Reliability
- Wide Range of Thermal Conductivity
- UL 94 V-0 Rated

Material

- Aluminum Oxide Filled Silicone
- Silicone Free (Acrylic Based) Available
- Boron Nitride Filled Silicone



THERMAL GAP FILLER

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ISO 9001: 2015 CERTIFIED



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Part Series	Test Method	TGF10	TGF10S	TGF15	TGF20	TGF20SF	TGF20S	TGF25	TGF30	TGF30SF	TGF30BN	TGF35	TGF35S	TGF40	TGF50	TGF60	TGF70	TGF80
Thermal Properties																		
Thermal Conductivity (W/m-K)	ASTM D 5470	1.00 ± 0.20	1.00 ± 0.20	1.50 ± 0.20	2.00 ± 0.20	2.00 ± 0.20	2.00 ± 0.30	2.50 ± 0.20	3.00 ± 0.25	3.00 ± 0.25	3.00 ± 0.50	3.50 ± 0.25	3.50 ± 0.25	4.00 ± 0.25	5.00 ± 0.50	6.00 ± 0.50	7.00 ± 0.50	8.00 ± 0.50
Thermal Resistance (°C • in²/ W@20PSI/1mm) *(°C • in²/ W@20PSI/2mm)	ASTM D 5470	≤ 2.0	≤ 3.0	≤ 1.50	≤ 1.20	≤ 0.70	≤ 0.70	≤ 1.00	≤ 0.90	≤ 0.60	≤ 1.20	≤ 0.80	≤ 0.70	≤ 0.75	≤ 0.70	≤ 0.50	≤ 0.30	≤ 0.20
Physical Properties																		
Color	Visual	Gray White	White	Pink	Light Blue	Gray White	Light Blue	Light Yellow	Sky Blue	Gray White	White	Green	Green	Purple	White	Gray	Gray	Gray
Thickness (in, (mm))	ASTM D 374	0.008-0.709 (0.2 - 18.0)	0.059-0.118 (1.5 - 3.0)	0.012-0.709 (0.3 - 18.0)	0.012-0.709 (0.3 - 18.0)	0.020-0.118 (0.5 - 3.0)	0.031-0.118 (0.8 - 3.0)	0.012-0.709 (0.3 - 18.0)	0.012-0.709 (0.3 - 18.0)	0.020-0.118 (0.5 - 3.0)	0.039-0.118 (1.0 - 3.0)	0.039-0.157 (0.5 - 4.0)	0.039-0.157 (1.0 - 4.0)	0.020-0.157 (0.5 - 4.0)	0.020-0.118 (0.5 - 3.0)	0.020-0.118 (0.5 - 3.0)	0.020-0.118 (0.5 - 3.0)	0.020-0.118 (0.5 - 3.0)
Density (lb/in3, (g/cc))	ASTM D 792	0.085 ± 0.018 (2.35 ± 0.5)	0.085 ± 0.018 (2.35 ± 0.5)	0.095 ± 0.018 (2.62 ± 0.5)	0.101 ± 0.018 (2.80 ± 0.5)	0.098 ± 0.018 (2.70 ± 0.5)	0.087 ± 0.018 (2.40 ± 0.5)	0.106 ± 0.018 (2.93 ± 0.5)	0.109 ± 0.018 (3.01 ± 0.5)	0.105 ± 0.018 (2.90 ± 0.5)	0.054 ± 0.018 (1.50 ± 0.5)	0.110± 0.018 (3.05 ± 0.5)	0.110 ± 0.018 (3.05 ± 0.5)	0.113 ± 0.018 (3.12 ± 0.5)	0.116 ± 0.018 (3.20 ± 0.5)	0.116 ± 0.018 (3.20 ± 0.5)	0.117 ± 0.018 (3.25 ± 0.5)	0.123 ± 0.011 (3.40 ± 0.3)
Hardness (Shore 00)	ASTM D 2240	8-80 ± 10	10 ± 5	10-75 ± 10	10-75 ± 10	94-98 ± 10	20 ± 5	10-75 ± 10	15-75 ± 10	94-98 ± 10	50-70 ± 10	18-80 ± 10	25 ± 10	50-75 ± 10	40-70 ± 10	50-70 ± 10	50 ± 10	50 ± 10
Compression Ratio (%@50PSI)	ASTM D 695	≥ 25	≥ 40	≥ 25	≥ 25	≥ 25	≥ 50	≥ 20	≥ 20	≥ 25	≥ 20	≥ 15	≥ 40	≥ 15	≥ 15	≥ 15	≥ 15	≥ 20
Tensile Strength (MPa)	ASTM D 412	≥0.30	≥ 1.50	≥ 0.25	≥ 0.25	≥ 0.15	≥ 0.15	≥ 0.20	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.15	≥ 0.10	≥ 0.12
Tear Strength (N/mm)	ASTM D 624	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	≥ 0.35
Elongation (%)	ASTM D 412	≥ 80	≥ 5	≥ 80	≥ 70	≥ 80	≥ 70	≥ 70	≥ 60	≥ 80	-	≥ 60	≥ 60	≥ 60	≥ 60	≥ 50	≥ 45	≥ 60
Operating Temperature (°F (°C))		-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-40 to 302 (-40 to 150)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-40 to 302 (-40 to 150)	-58 to 320 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 356 (-50 to 180)	-58 to 302 (-50 to 150)	-58 to 302 (-50 to 150)	-58 to 302 (-50 to 150)	-40 to 266 (-40 to 130)
Shelf Life (Months)	N/A	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Electrical Properties																		
Volume Resistivity (ohm-cm)	ASTM D 257	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ⁸	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ⁸	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰	≥ 10 ¹⁰
Breakdown Voltage (KV/mm)	ASTM D 149	≥ 8	≥ 8	≥ 8	≥ 8	≥ 8	≥ 8	≥ 8	≥ 8	≥ 8	≥ 10	≥ 8	≥ 8	≥ 8	≥ 7	≥ 3	≥ 3	≥ 3
Dielectric Constant (@1MHz)	ASTM D 150	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 2.0	≥ 3.5	≥ 2.0	≥ 2.0	≥ 2.0	≥ 5.0	≥ 5.0	≥ 5.0	≥ 5.0
Dielectric Loss (@ 1 MHz)	ASTM D 150	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.002	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100	≤ 0.100
Regulatory																		
Flammability Rating (UL)	UL94	V-0, 5V	V-0, 5V	V-0, 5V	V-0, 5V	V-0	V-0, 5V	V-0, 5V	V-0, 5V	V-0	V-0	V-0, 5V	V-0, 5V	V-0, 5V	V-0	V-0	V-0	V-0
RoHS Compliant	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes