

SILTEL SF-TC1.2

Thermally Conductive Silicone Film

Thermal Conductivity: 1.2 W/m-K

0.009" (0.23mm) / 0.012" (0.30mm) / 0.018" (0.45mm)

SILTEL SF-TC1.2 is an electrically insulating thermally conductive silicone film (fiberglass reinforced) for use between heat generating electronic devices and heat sink or case sink structures. SF-TC1.2 offers cost effective performance with its reliable thermal conductivity of 1.2 W/m-K. But still offers a reduction in thermal resistance during compression, high dielectric properties and the same excellent handling characteristics found in other higher thermal performing SILTEL Film products.

The fiberglass reinforcement allows the SF-TC1.2 to maintain its mechanical stability and good cut through resistance. With the ability to apply optional pressure sensitive adhesive to one or both sides of the silicone film for assembly allows the SF-TC1.2 film to be a cost-effective thermal interface material for a wide range of electronic assembly applications.

SILTEL SF-TC1.2 is available as log rolls, slit rolls or TIMTEL die cuts to match a wide range of industry standard or customer defined outlines.

- Cost Effective Thermal Pad Solution
- Excellent Mechanical Stability
- High Dielectric Strength
- Optional Adhesive (single or both sides)
- Sheets or TIMTEL Cut Parts (Standard or Custom)

Typical Applications

- MOSFET or IGBT's
- Power Diodes or AC/DC Converters
- Power Modules
- Motor or Power Control Units
- Automotive Engine Management
- UPS Systems / Solar Systems

SF-TC1.2 General Properties

Thermal Conductivity.....1.2 W/m-K
 Color:..... Gray
 Operating Temperature.....-50°C to 180°C

Standard Thickness Options

SF.23-TC1.2.....0.009" (0.23mm)
 SF.30-TC1.2.....0.012" (0.30mm)
 SF.45-TC1.2.....0.018" (0.45mm)
 OPTINAL SIL1 = 0.001"/0.025mm silicone PSA per side

0.009" / 0.23mm Properties

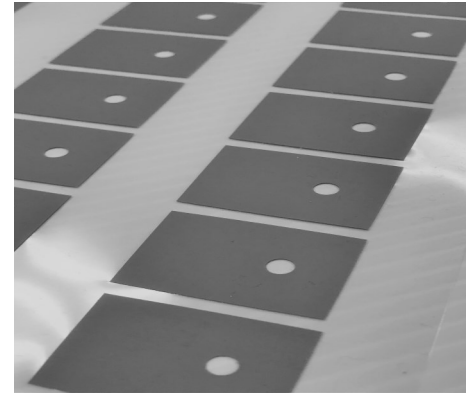
Thermal Impedance @ 30 PSI.....0.790 °C in² / Watt
 Thermal Impedance @ 150 PSI.....0.550 °C in² / Watt
 Breakdown Voltage5.50 kV AC
 Volume resistivity.....>1.00 x 10¹¹ ohm-cm
 Tensile Strength.....5.0 kpsi
 Dielectric Constant.....6.0 (@1MHZ)

0.012" / 0.30mm Properties

Thermal Impedance @ 30 PSI.....1.050 °C in² / Watt
 Thermal Impedance @ 150 PSI.....0.750 °C in² / Watt
 Breakdown Voltage>6.0 kV AC
 Volume resistivity.....>1.00 x 10¹¹ ohm-cm
 Tensile Strength.....4.1 kpsi
 Dielectric Constant.....6.0 (@1MHZ)

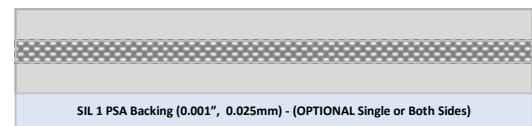
0.018" / 0.45mm Properties

Thermal Impedance @ 30 PSI.....1.550 °C in² / Watt
 Thermal Impedance @ 150 PSI.....1.250 °C in² / Watt
 Breakdown Voltage>6.0 kV AC
 Volume resistivity.....>1.10 x 10¹¹ ohm-cm
 Tensile Strength.....2.9 kpsi
 Dielectric Constant.....6.0 (@1MHZ)



Standard SILTEL SF-TC1.2 Cross Section

Optional SIL1 Pressure Sensitive Adhesive Backing



Reference FastTack SIL data sheet for PSA technical information

Characteristic	SILTEL SF-TC1.2
Base Material	Ceramic Filled Silicone
Substrate	Fiberglass Mesh (0.003" / 0.08mm)
Color	Gray
Available Formats	Master Rolls / Slit Rolls / Die Cuts (pieces or reels)
Maximum Roll Width	11.81" (30.00cm) Standard
Slit Rolls	Customer Defined
Standard Sheet Sizes	18.00" x 11.81" (45.72cm x 30.00cm)
Custom Sheet Sizes	Yes, customer defined
TIMTEL Die Cutting Capabilities	Steel Rule Die / Flexible Die / Rotary Die / Laser Cutting
TIMTEL Die Cut Delivery Formats	Individuals, Multiples per Card or Continuous Reel
TIMTEL Die Cut Dimensional Tolerances	0.010"(0.25mm) to 0.020"(0.51mm) (determined at design review)
Storage (no SIL1 backing)	Cool, dry location at or below 95F / 35C
Storage (with SIL1 backing)	Cool, dry location at or below 80F/ 27C. Store away from UV
Shelf Life (no SIL1 backing)	Indefinite if stored per conditions above
Shelf Life (with SIL1 backing)	2 years from date of manufacture (due to PSA backing)

Thermal material evaluation is always critical when designing in a new material or developing a new product. Sheet samples of SILTEL are available for preliminary testing to determine the optimal SILTEL thickness as well as overall material construction best suited within the scope of your application requirements.

Want to test samples per your required die cut part? Our razor plotter sampling machine allows us to provide customers SILTEL material already cut to their required outline for testing. Plotter formed samples provide our customers the ability to test not only the SILTEL material itself, but their required outline as well without incurring the expense of production tooling.

Contact TIMTEL to request sample sheets or plotter formed samples for testing.