SILTEL SF-TC5.0

Thermally Conductive Silicone Film

0.008” (0.20mm) / 0.012” (0.30mm) / 0.018” (0.45mm)

Thermal Conductivity 5.0 W/m-K

SILTEL SF-TC5.0 is an electrically insulating fiberglass reinforced silicone film pad designed for optimized thermal performance between an electronic package and heat sink. A high thermal conductivity is achieved through the use of thermally conductive ceramic particles filled to a specific formulation to achieve a reduction of thermal resistance during compression as well as provide excellent handling characteristics during installation.

Through the use of a fiberglass reinforced carrier, SF-TC5.0 provides excellent mechanical stability and cut-through resistance.

SILTEL SF-TC5.0 is available standard as log rolls, slit rolls or TIMTEL die cuts to match a wide range of industry standard or customer defined outlines.

- High Performance Insulating thermal pad
- High Surface Compliance & Thermal Contact
- Residue-Free Removal During Disassembly
- Excellent Chemical Resistance & Long Term Stability
- Available with single side tack (SIL1)
- Sheets or TIMTEL die cuts only

Typical Applications

* MOSFET or IGBTs
* Power Diodes or AC/DC Converters
* Power Modules
* Motor or Power Control Units

Standard Thickness Options

* SF.20-TC5.0……..…..0.008” (0.20mm)
* SF.30-TC5.0…….……...0.012” (0.30mm)
* SF.45-TC5.0……0.018” (0.45mm)

SIL1 Tack Backing (optional) - 0.001” / 0.025mm

0.008” / 0.20mm Physical Properties

* Thermal Impedance @ 30 PSI……..0.290 ^{o}C in^{2} / Watt
* Thermal Impedance @ 150 PSI…….0.110 ^{o}C in^{2} / Watt
* Breakdown Voltage ……3.0 kV AC
* Volume resistivity……..1.70 x 10^{15} ohm-cm
* Thermal Conductivity……...5.0 W/m-K
* Operating Temperature…….-50^{o}C to 200^{o}C
* Tensile Strength……..1.3 kpsi

0.012” / 0.30mm Physical Properties

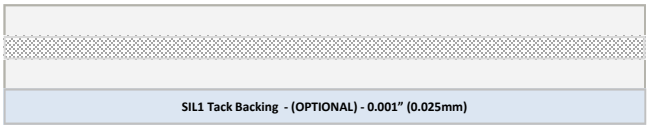
* Thermal Impedance @ 30 PSI……..0.320 ^{o}C in^{2} / Watt
* Thermal Impedance @ 150 PSI…….0.150 ^{o}C in^{2} / Watt
* Breakdown Voltage ……6.0 kV AC
* Volume resistivity……..7.90 x 10^{15} ohm-cm
* Thermal Conductivity……...5.0 W/m-K
* Operating Temperature…….-50^{o}C to 200^{o}C
* Tensile Strength……...1.2 kpsi

0.018” / 0.45mm Physical Properties

* Thermal Impedance @ 30 PSI……..0.350 ^{o}C in^{2} / Watt
* Thermal Impedance @ 150 PSI…….0.170 ^{o}C in^{2} / Watt
* Breakdown Voltage ……9.0 kV AC
* Volume resistivity……..9.20 x 10^{15} ohm-cm
* Thermal Conductivity……...5.0 W/m-K
* Operating Temperature…….-50^{o}C to 200^{o}C
* Tensile Strength……...0.7 kpsi

Standard SILTEL SF-TC5.0 Cross Section

Optional SIL1 Tack Backing



SILTEL SF-TC5.0 General Properties / Form Characteristics

Characteristic	SILTEL SF-TC5.0
Base Material	Ceramic Filled Silicone
Substrate	Fiberglass Mesh
Color	White
Available Formats	Sheets or Die Cuts (individual pieces)
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 A1 PSA backing) Storage (with A1 PSA backing)	Cool, dry location at or below 95F / 35C Cool, dry location at or below 80F/ 27C. Store away from UV
Shelf Life (no A1 PSA backing) Shelf Life (with A1 PSA backing)	Indefinite if stored per conditions above 2 years from date of manufacture (due to PSA backing)

SILTEL Samples for Testing

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.