

SILTEL SP Series

Polyimide Supported Thermally Conductive Silicone Film

0.0043" (0.11mm) or 0.006" (0.15mm)

SILTEL SP is an electrically insulating thermally conductive film consisting of a high voltage resistant polyimide film support coated on both sides with a thermally conductive silicone coating optimizing heat transfer between electronic packages and heat sinks. Excellent thermal performance is reached through the design of the specifically formulated ceramic filled silicone coating. When subjected under pressure, low thermal impedance is reached packaged with reliable dielectric strength.

The polyimide substrate allows SILTEL SP to maintain its mechanical stability and good cut thru resistance. With the ability to apply optional pressure sensitive adhesive to one or both sides of the SILTEL film for assembly allows SILTEL SP to be a cost-effective thermal interface material solution for a wide range of electronic assembly applications.

SILTEL SP is available in log rolls, slit rolls of TIMTEL die cuts to match a variety of industry standard outlines or customer defined outlines.

- Excellent Thermal Contact
- High and Reliable Dielectric Strength
- Polyimide Support—Excellent Handling
- Offers High Mechanical Stability
- 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

SILTEL SP General Properties

Color:..... Brown / Orange Tint
 Operating Temperature.....-65°C to 180°C
 Thermal Conductivity.....1.7 W/m-K
 Substrate.....Polyimide Film
 Coating.....Ceramic Filled Silicone

Standard Thickness Options

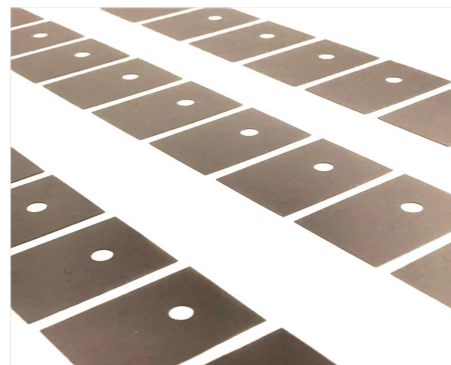
SP.11.....0.0043" (0.110mm)
 SP.11-SIL1.....0.0053" (0.135mm) - single side
 SP.11-SIL1DC.....0.0063" (0.160mm) - double side
SP.15.....0.0060" (0.150mm)
 SP.15-SIL1.....0.0070" (0.177mm) - single side
 SP.15-SIL1DC.....0.0080" (0.200mm) - double side
 SIL1 = 0.001"/0.025mm silicone PSA—available single side or double side

0.0043" / 0.11mm Properties

Thermal Impedance @ 30 PSI.....0.550 °C in² / Watt
 Thermal Impedance @ 150 PSI.....0.290 °C in² / Watt
 Breakdown Voltage6.00 kV AC

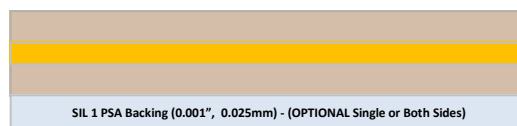
0.006" / 0.15mm Properties

Thermal Impedance @ 30 PSI.....0.750 °C in² / Watt
 Thermal Impedance @ 150 PSI.....0.400 °C in² / Watt
 Breakdown Voltage>6.0 kV AC



Standard SILTEL SP Cross Section

Optional SIL1 Pressure Sensitive Adhesive



Reference FastelTack SIL data sheet for technical information

Characteristic	SILTEL SP
Coating	Ceramic Filled Silicone
Substrate	Polyimide Film
Color	Light Brown
Available Formats	Master Rolls / Slit Rolls / Die Cuts (pieces or reels)
Maximum Roll Width	12.60" (32.00cm) Standard
Slit Rolls	Customer Defined
Standard Sheet Sizes	18.00" x 12.60" (45.72cm x 32.00cm)
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)	2 years from date of manufacture
Shelf Life (with SIL1 backing)	1 year from date of manufacture (SIL1 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.

TIMTEL

Thermal Management Materials

STREUTER