

SILTEL NSG-TC2.0

Silicone Free Thermally Conductive Gap Pad

Thermal Conductivity: 2.0 W/m-K

SILTEL NSG-TC2.0 is an electrically isolating thermally conductive Silicone-FREE thermally conductive gap pad designed for use in applications where thermal transfer over large gaps (large tolerances) or different stack up heights must be achieved. NSG-TC2.0 is an olefin based elastomer that does not contain any volatile siloxanes which are inevitably emitted by silicones. NSG-TC2.0's specific formulation with ceramic filled particles is designed to offer high thermal conductivity of 2.0 W/m-K considering a non-silicone elastomer design.

Through NSG-TC2.0's extraordinary softness, the pad perfectly mates to irregular surfaces thus filling gaps and operates at low pressure offering low thermal resistance. The natural tackiness of the material allows for an easy and reliable pre-assembly. NSG-TC2.0 is standard with tack one side and can be offered with double sided tack through lamination with a thermally conductive film.

SILTEL NSG-TC2.0 is available in sheets or TIMTEL cut parts to match a wide range of industry standard or customer defined outlines.

- Silicone Free Elastomer Design
- No Siloxanes
- Extraordinary Softness and Compliant
- Operates at Low Pressure
- Shock Absorbing
- Tack One Side / Optional Tack Both Sides

Standard SILTEL NSG-TC2.0 Cross Section

Standard is natural light tack both sides

Typical Applications

- SMD Packages
- Through-hole Vias
- RDRAMs Memory Modules
- Interfaces with Large Gaps / Tolerances
- Industrial / Automotive / Laptop Markets
- Electronics to Heat Pipe Assemblies

NSG-TC2.0 Pad

Additional single side higher tack lamination available (Type F1)

Standard Thickness Options

NSG0.5-TC2.0.....	0.020" (0.50mm)
NSG1.0-TC2.0.....	0.039" (1.00mm)
NSG2.0-TC2.0.....	0.078" (2.00mm)
NSG3.0-TC2.0.....	0.118" (3.00mm)

NSG-TC2.0 General Properties

Thermal Conductivity.....	2.0 W/m-K
Color.....	Red
Hardness.....	45 (Shore 00)
Dielectric Strength.....	> 10 kV/mm
Volume Resistivity.....	1.0×10^{10}
Specific Gravity.....	1.75 g/cm ³
Operating Temperature.....	-40°C to 125°C

0.020" / 0.50mm Thermal Resistance

Thermal Impedance @ 10 PSI.....0.740 °C in² / Watt

Thermal Impedance @ 30 PSI.....0.650 °C in² / Watt

Thermal Impedance @ 60 PSI.....0.540 °C in² / Watt

0.039" / 1.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....1.330 °C in² / Watt

Thermal Impedance @ 30 PSI.....1.110 °C in² / Watt

Thermal Impedance @ 60 PSI.....0.860 °C in² / Watt

0.078" / 2.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....2.480 °C in² / Watt

Thermal Impedance @ 30 PSI.....1.890 °C in² / Watt

Thermal Impedance @ 60 PSI.....1.270 °C in² / Watt

0.118" / 3.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....3.670 °C in² / Watt

Thermal Impedance @ 30 PSI.....2.660 °C in² / Watt

Thermal Impedance @ 60 PSI.....1.680 °C in² / Watt

Characteristic	SILTEL NSG-TC2.0
Base Material	Non-Silicone Olefin Based Elastomer
Substrate	NONE
Color	Red
Available Formats	Sheets or Cut Pads
Standard Sheet Sizes (0.5mm / 1mm / 2mm)	8.25" x 16.50"
Standard Sheet Sizes (3mm)	7.75" x 7.75"
TIMTEL Cutting Capabilities	Razor Plotter Cut for Gap Filler Pads
TIMTEL Die Cut Delivery Formats	Individuals or Multiples per Master Sheet
TIMTEL Die Cut Dimensional Tolerances	0.010"(0.25mm) to 0.020"(0.51mm) (depending on thickness)
Storage	Cool, dry location at or below 80F/ 27C
Shelf Life	2 years from date of manufacture

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.