



ISO 9001-2015 Certified

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TECHNICAL BULLETIN

STG-51TC

Conductive Silicone Thermal Compound

Product Description

STG-51TC Heat Sink Compound is silicone thermal grease *material heavily filled with heat-conductive metal oxides*. These combinations provide high thermal conductivity, low bleed and high temperature stability. **STG-51TC** specially developed to solve the problems of contamination and migration associated with silicone-based products. The compound is a unique synthetic-based thermal grease use to insure quick, efficient heat transfer and dissipation

Key Features and Benefits

- High temperature resistance.
- Exceptionally low Interface Thermal Resistance.
- High Thermal Conductivity, High dielectric strength.
- Exceptionally low bleed and evaporation.
- Thin Bondlines of 1-2 mil
- Will not harden, dry out or melt.
- Will not contaminate solder bath.
- Non-Toxic.

Major Applications:

Heat sink compound is applied to the base and mounting studs of transistors, diodes and silicone controlled rectifiers. In these situations, a small amount of thermal grease using either dispensing or screen printing/stencil is best. It has also been used as a high- voltage corona suppressant, non-flammable coating in connections for fly back transformers in TV sets and similar applications. It also used in mounting semiconductor devices; mounting power transistors and diodes; coupling entire heat generating assemblies to chassis; heat transfer medium on ballast; thermal joints; thermocouple wells; mounting power resistors; for any device where efficient cooling is required; major industries served include electronic (computer, appliance, wireless, etc.), automotive, electrical.

Shelf life:

STG-51TC has self-life of 5 years at room temperature (25°C) in unopened containers. Slight settling of the filler may occur during long-term storage. In this case, it is recommended to refrigerate material at 0-10°C to avoid any settling.

Clean Up:

It is recommended that customer use disposable containers and utensils whenever possible to simplify clean up. However, when disposable containers are impractical, STG-51TC can be removed by cleaning equipments with such as Mineral spirit (Paint thinner), Hexane or Isopropyl alcohol. Observe appropriate precautions.

Property

<u>Property</u>	<u>Value</u>
Viscosity, cPs:	70,000
Specific Gravity, @ 25°C	2.2
Color:	Grey
Thermal Resistance °C-in²/W	0.014

Thermal Conductivity, (ASTM 5470)

BTU.In/(Hr.Ft ² .°F)	22.0
W/m.°K	3.2

Electrical Properties :

Dielectric strength. (ASTM D150) 0.05" gap, V/mil	225
Dielectric constant. (ASTM D150) 25°C @ 1 KHz.	2.8
Dissipation factor. (ASTM D150) 25°C @ 1,000 Hz.	0.0026
Volume Resistivity. (ASTM D257) Ohm-cm.	1.8 x 10 ¹⁴
Volume Resistivity	1.0 x 10 ¹⁰

Operating Temperature Range.	-55°C to 205°C
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DISCLAIMER: All data given here is offered as a guide to the use of these materials and not as a guarantee of their performance. The user should evaluate their suitability for own purposes. Properties are typical and should not be used in preparing specifications. Statements are not to be construed as recommendations to infringe any patent.