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Thermal Greases

Sil-Free™ RoHS Compliant
Silicon free synthetic thermal grease

Ther-O-Link RoHS Compliant
Silicon based thermal grease

Ultrastick RoHS Compliant
Silicon free solid phase change compound in convenient application bar

Conducta-Cote™ RoHS Compliant
Condutive thermal grease on a pre-coated alum carrier

Thermalcote™ RoHS Compliant
Silicon free thermal compound in a synthetic base fluid for efficient application

Sil-Free™

Sil-Free™ 1020 is a metal-oxide-filled, silicone-free synthetic grease specially formulated to enhance heat transfer across the interface between the semiconductor case and the heat sink without the migration or contamination associated with silicone-based products.

Dry interface case-to-sink thermal resistance is typically reduced 50% to 75% with proper application of Sil-Free™ 1020.

This virtually "no-bleed", high-performance compound will not dry out, harden, melt, or run, even after long-term continuous exposure to temperatures up to 200°C. Even in a vacuum atmosphere (10^{-5} Torr, 24 hours@100°C), Sil-Free™ 1020 exhibits virtually "no bleed" or evaporation.

Color	White
Thermal Conductivity	0.79 W/(m-°C)
Operating Temperature Range	-40°C to 200°C
Volume Resistivity	2.3 x 10^{12} Ohm-cm
Weight	47.5 grams
Dielectric Strength	225 Volts/mil
Consistency	Paste
Bleed	0.09 max

Sil-Free™ Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

Specific Gravity	2.8
Shelf Life	Indefinite[1] (unopened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Sil-Free in PDF format 104K

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

Ordering Information

Part Number	RoHS	PCN	Package	Size
101700F00000G	RoHS Compliant	Product Change Notice	Syringe	43 grams (1.5 Oz.)
101800F00000G	RoHS Compliant	Product Change Notice	Tube	57 grams (2.0 Oz.)
101900F00000G	RoHS Compliant	Product Change Notice	Jar	57 grams (2.0 Oz.)
102000F00000G	RoHS Compliant	Product Change Notice	Tube	143 grams (5.0 Oz.)
102100F00000G	RoHS Compliant	Product Change Notice	Jar	457 grams (16.0 Oz.)

Ther-O-Link

Ther-O-Link is a silicone-based thermal compound that cost effectively enhances the heat transfer between a semiconductor case and a heat sink. Easy to apply, Ther-O-Link substantially reduces dry interface thermal resistance, while providing long life under a variety of conditions.

Color	White
Thermal Conductivity	0.73 W/(m-K)
Operating Temperature Range	-40°C to 200°C
Volume Resistivity	1.0 x 10^{15} Ohm-cm
Dielectric Strength	250 Volts/mil
Consistency	Paste

Ther-O-Link Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

Bleed	0.6 max
Specific Gravity	2.8
Shelf Life	Indefinite[1] (unopened)

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Ther-O-Link in PDF format 104K

Ordering Information

Part Number	RoHS	PCN	Package	Size
100000F00000G	RoHS Compliant	Product Change Notice	Ampule	1g.
100100F00000G	RoHS Compliant	Product Change Notice	Syringe	35.7 grams (1.25 Oz.)
100200F00000G	RoHS Compliant	Product Change Notice	Tube	57 grams (2.0 Oz.)
100500F00000G	RoHS Compliant	Product Change Notice	Tube	143 grams (5.0 Oz.)
100800F00000G	RoHS Compliant	Product Change Notice	Can	228.6 grams (8.0Oz.)
101600F00000G	RoHS Compliant	Product Change Notice	Can	.45 kg (1 lb)
108000F00000G	RoHS Compliant	Product Change Notice	Can	2.27 kg (5 lb)
132000F00000G	RoHS Compliant	Product Change Notice	Can	9.07 kg (20 lb)

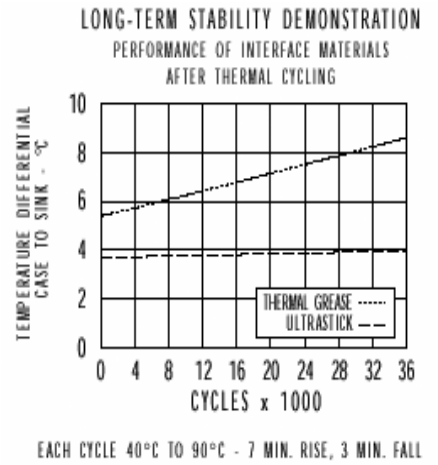
Ultrastick
Part Number: 100300F00000G

RoHS Compliant Product Change Notice

Download PDF Datasheet

Aavid's Ultrastick is a unique phase-change thermal interface material that surpasses grease in thermal performance and long-term stability. This solid, silicone-free, paraffin-based thermal compound changes phase at 60°C, with a concurrent volumetric expansion that fills gaps between the mating surfaces. Ultrastick comes in

a convenient applicator bar, allowing for neat, fast application to both heat sink and component surfaces. One cost-effective application leaves a thin, film-like deposit, providing excellent heat transfer and low interface thermal resistance.



Temperature	200°
Volume Resistivity	1.0 X 1.0^{15} Ohm-cm
Dielectric Strength	250 volts/mil
Consistency	Paste
Bleed	0.6 max
Specific Gravity	0.28
Color	Opaque White
Operating Temperature Range	-40°C to 200°C
Thermal Resistance	0.03ºC/W per square inch @ 20 psi 0.02ºC/W per square inch @ 100 psi
Shelf Life	Indefinite

Application Instructions for Ultrastick

MSDS Safety Sheet for Ultrastick in PDF format 684K

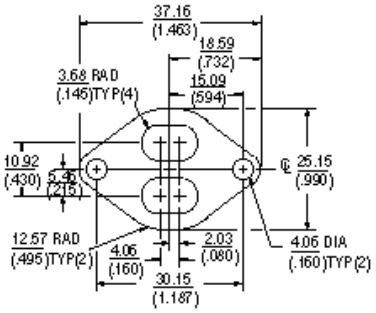
Conducta-Cote™

Conducta-Cote™ is

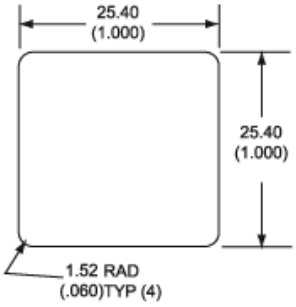
used where grease application is needed without an insulator. It performs like a greased bare joint application.

- Pre-coated thermal grease aluminum carrier.
- Save money by elimination of hand application of thermal grease.
- Provides uniform coating for maximum heat transfer (.025mm (.001") minimum).
- Eliminates contaminants.
- Aluminum carrier .10mm (.004") thick.

For TO-3
Part Number:57-03-2CAP



For Pentium
Part Number:57-77-1



Thermalcote™

Thermalcote™ is a superior thermal joint compound of thermally-loaded silicone-based grease for use with all heat sinks. It improves the transfer of thermal energy across the metal-to-metal interfaces between the transistor or rectifier case and the heat sink. Thermalcote conducts heat approximately 15 times better than air and more than 4 times better than unloaded silicone grease. It is non-toxic, extremely stable, and neither cakes nor runs from -40° to 204°C (-40°F to 399°F).

Thermalcote Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

Color	Opaque White
Operating Temperature Range	-40°C to 204°C (-40°F to 399°F).
Thermal Conductivity	0.765$Wm^{-1}°C^{-1}$ (0.442 Btu/hr ft °F
Dialectic strength 1.27 mm gap(0.050" gap)	11.8 x 10^3volts/mm (300volts/mil)
Cleaning solvent	Mineral Spirits or Turpentine
Specific gravity	1.6
Evaporation, 24 hours@200°C (392°F), wt%	1
Shelf Life	Indefinite[1] (unopened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Thermalcote in PDF format 41K

Part No.	RoHS	PCN	Net Weight
249	RoHS ✓ Compliant	Product Change Notice	28 grams (1 oz) tube
250G	RoHS ✓ Compliant	Product Change Notice	57 grams (2 oz) tube
251G	RoHS ✓ Compliant	Product Change Notice	.45Kg. (1 lb) can
252G	RoHS ✓ Compliant	Product Change Notice	2.27Kg. (5 lbs) can
253G	RoHS ✓ Compliant	Product Change Notice	4.54Kg. (10 lbs) can

Thermalcote™II

Thermalcote™ II was developed as the sensible alternative to silicone-based thermal greases. Thermalcote II employs a highly conductive synthetic base fluid that enables the finished product to exhibit the same thermal characteristics as the silicone-based products.

Thermalcote II contains no silicone. The high lubricity of the base oil permits efficient application to both semiconductor case or

Thermalcote™ II Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

heat sink, and it will effectively fill the microscopic air gaps on the metal-to-metal mating surfaces. It is non-toxic, extremely stable, and neither cakes nor runs from -40° to 200°C (-40°F to 392°F).

Color	Blue
Operating Temperature Range	-40°C to 200°C (-40°F to 392°F).
Thermal Conductivity	0.699$Wm^{-1}°C^{-1}$ (.204 Btu/hr ft °F
Dialectic strength 1.27 mm gap(.050" gap)	7.9 x 10^3volts/mm (200volts/mil)
Cleaning solvent	Mineral Spirits or Turpentine
Specific gravity	2.93@60°F(15.6°C)
Evaporation, 24 hours@200°C (392°F), wt%	0.6 max
Shelf Life	Indefinite[1] (unopened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Thermalcote II in PDF format 41K

Part No.	RoHS	PCN	Net Weight
349G	RoHS ✓ Compliant	Product Change Notice	28 grams (1 oz) tube
350G	RoHS ✓ Compliant	Product Change Notice	57 grams (2 oz) jar
351G	RoHS ✓ Compliant	Product Change Notice	.45Kg. (1 lb) can