Thermally Conductive Grease
8066

Preliminary Technical Data **Jan., 2012**

Product Description

3M™ Thermally Conductive Grease 8066 is an excellent thermal interface material for transferring thermal energy from a heat source(e.g.: processor chip, graphic chip. etc.) to a heat sinking or heat spreading surface . The 3M Grease 8066 is blended of conductive fillers in a non-silicone polymer system which provides for excellent bulk thermal conductivity along with low thermal resistance and high thermal conductivity.

3M™ Thermally Conductive Grease 8066 behaves high viscosity with special designing to be applied by tooling dispensing. The 3M Grease 8066 performs good wetting property and forms thinner BLT(Bond Line Thickness) for easy apply onto the surface of heat source.

Note: The data presented in this preliminary data sheet are 3M's best estimates for the current product construction being evaluated. While this product is being developed for general commercialization, this product is still considered developmental at this time and changes in product construction or process conditions may occur that can cause subsequent changes in product characteristics or performance. User should with 3M before making any business plans in reliance upon the future availability or the current properties of this product.

Key Features

- Excellent bulk conductivity
- Non-silicone based formulation
- Low thermal impedance

Typical Physical Properties

Note: The following technical information and data is based upon limited 3M testing conditions and should not be used for specification purposes.

Viscosity @ 25°C = 1.4 x 10^6 cps (Brookfield Viscometer)	Density δ = 2.2 g/cc @ 25°C
< 0.5 % wt. loss in @ 85 ℃ x 7 Days	Dielectric Breakdown Strength = 4000 Volts/mm
Dielectric Constant = 65 @ 1kHz	Vol. Resistivity = 3.5 x 10^8 Ω-cm @ 1 kHz

Typical Performance Characteristics

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k = 1.8 W/m-K	Θ = 0.140 ℃-cm ^{2}/W, 2 psi @ 26 µ BLT
Thermal Impedance by ASTM D-5470, ℃-cm ^{2}/W	
Pressure (psi)	8066
10	0.100
20	0.092
40	0.088
60	0.080
80	0.078

Storage and Shelf Life

Product Shelf life is 12 months from date of manufacture when stored in the original product container and packaging materials and stored at room temperature (16-27°C) and 40-60% RH. To ensure best uniformity of conductive fillers, the product should be mixed prior to use to ensure uniform distribution of fillers.

Directions for Use

Apply the product with well pre-stirred few seconds before use and then onto the desired interface by optimum pressure (from approximately 1-25 psi applied at a variable or constant force as determined by end user) when bringing the substrate interfaces together. Pressure is applied until the desired gap thickness is achieved. Apply sufficient product to ensure good gap filling at the desired final nominal gap thickness (Sufficient product volume use can be demonstrated by having a small amount of squeeze-out at the edges of the interface).
We recommend to apply the product onto substrates at higher temperature 15˚C.

Precautionary Information

Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

For Additional Information

To request additional product information or to arrange for sales assistance, contact your local 3M Technical Service. Address correspondence to: 3M Electronics Markets Materials Division, 3M Center, Building 209-01-C-30, St. Paul, MN 55144-1000. Our fax number is 1-651/733-3304.

Important Notice

The statements and technical information contained herein are based on tests and data which 3M believes to be reliable, but the accuracy or completeness of such statements and technical information is not guaranteed. User is responsible for determining whether a specific 3M product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

No Warranty

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These products are not warranted or guaranteed to be silicone-free.

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