

## 3M™ Thermally Conductive Grease TCG-2035

### Product Description

3M™ Thermally Conductive Grease TCG-2035 is a high performance thermal interface material designed to transfer thermal energy from a heat source, including processor chips and graphics chips, to a heat sinking or heat spreading surface. 3M grease TCG-2035 has a blend of inorganic fillers in a non-silicone resin system helps provide excellent bulk thermal conductivity along with very low thermal resistance.

### Key Features

- High Performance thermal interface material
- Superior bulk conductivity
- Excellent thermal impedance
- Non-silicone based formulation
- < 40 μ max particle diameter

### Product Construction/Material Description

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Thermally Conductive Grease TCG-2035	
Property	Value
Color	Gray
Filler	Inorganic Thermally Conductive Filler
Base	Non-Silicone Polymer

### Applications

- Thermal interface material for CPU
- Thermal Interface material between heat sink and heat spreader for LED lighting

### Application Techniques

Apply the product at the desired interface and use 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).

Heat can be applied (40-50°C) to lower the product viscosity to aid in product flow and for establishing a desired gap thickness. To ensure best uniformity of conductive fillers, 3M grease TCG-2035 should be mixed prior to use to ensure uniform distribution of fillers.

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## Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Thermally Conductive Grease TCG-2035		
Property	Method*	Value
Shear Modulus	3M Test Method	G' =3150 Pa @ 25°C
Density	3M Test Method	2.92 g/cm <sup>3</sup>
Dielectric Constant	ASTM D150	5.4 @ kHz
Volume Resistivity	ASTM D257	1.36 x 10 <sup>9</sup> Ω-cm @ 1 kHz
Dielectric Strength	ASTM D149	4700 volts/mm
Thermal Impedance	ASTM D5470**	0.012 C-in <sup>2</sup> /W ( 0.081 C-cm <sup>2</sup> /W)
Thermal Conductivity	ASTM D5470**	4.1 W/m-K

\*Methods listed as ASTM are tested in accordance with the ASTM method noted

\*\*Tested in accordance with a 3M modified version of ASTM D5470

## Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Grease TCG-2035 is 9 months from the date of manufacture when stored in the original packaging materials and stored at 21°C (70°F) and 50% relative humidity.

## Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is commercially available from 3M. The commercially available product will have a COA specification established. The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

This technical data sheet may contain preliminary data and may not match the COA specification limits and/or test methods that may be used for COA purposes.

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Safety Data Sheet: Consult Safety Data Sheet before use.

Regulatory: For regulatory information about this product, contact your 3M representative.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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