Technical Data Sheet

BERGQUIST HI FLOW THF 1600G

Known as BERGQUIST HI-FLOW 300G
April 2020

PRODUCT DESCRIPTION

Fiberglass-Reinforced, Phase Change Thermal Interface Material.

Technology	Phase Change
Appearance	Green
Reinforcement Carrier	Fiberglass
Total Thickness , ASTM D374	0.127mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature	100 °C

FEATURES AND BENEFITS

- Thermal impedance: 0.2°C-in²/W @ 25 psi
- Will not drip or run like grease
- Phase change compound coated on a fiberglass carrier

TYPICAL APPLICATIONS

- Computer and peripherals
- As a thermal interface where bare die is exposed and needs to be heat sinked

BERGQUIST HI FLOW THF 1600G consists of a thermally conductive 55°C phase change compound coated on a fiberglass web. BERGQUIST HI FLOW THF 1600G is designed as a thermal interface material between a computer processor and a heat sink.

Above the phase change temperature, BERGQUIST HI FLOW THF 1600G wets-out the thermal interface surfaces and flows to produce low thermal impedance. The material requires pressure of the assembly to cause flow. BERGQUIST HI FLOW THF 1600G will not drip or run like grease.

TYPICAL PROPERTIES

Physical Properties

Elongation , 45° to warp and fill, ASTM D882A,%	40
Tensile Strength, ASTM D882A, MPa	3
Phase Change Temperature, ASTM D3418, °C	55
Flammability Rating, UL 94	V-0

Electrical Properties

Dielectric Breakdown Voltage, ASTM D149, Vac	300
Dielectric Constant , ASTM D150 @ 1,000 Hz	3.5
Volume Resistivity, ASTM D257, ohm-meter	1×10^8

Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K) (1)	1.6

Thermal Performance vs. Pressure

TO-220 Thermal Performance, °C/W:	
@ 10 psi	0.96
@ 25 psi	0.92
@ 50 psi	0.88
@ 100 psi	0.85
@ 200 psi	0.84
Thermal Impedance, ASTM D5470, °C-in²/W (2):	
@ 10 psi	0.27
@ 25 psi	0.2
@ 50 psi	0.16
@ 100 psi	0.15
@ 200 psi	0.14

1) This is the measured thermal conductivity of the Hi-Flow coating. It represents one conducting layer in a three-layer laminate. The Hi-Flow coatings are phase change compounds. These layers will respond to heat and pressure induced stresses. The overall conductivity of the material in post-phase change, thin film products is highly dependent upon the heat and pressure applied. This characteristic is not accounted for in ASTM D5470. Please contact Bergquist Product Management if additional specifications are required.

2) The ASTM D5470 test fixture was used and the test sample was conditioned at 70°C prior to test. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

APPLICATION METHODS

1. Hand-apply to 40°- 50°C heat sink. The heat sink is heated in an oven or by a heat gun to between 40°- 50°C allowing the BERGQUIST HI FLOW THF 1600G pad to be applied like an adhesive pad. The heat sink is then cooled to room temperature and packaged.

2. Hand-apply to 20°- 35°C heat sink. BERGQUIST HI FLOW THF 1600G can be applied to a room temperature heat sink with the assistance of a foam roller. The pad is positioned on the heat sink and a hand roller is used to apply pressure of 30 psi.

3. Automated equipment with 30 psi pressure. A pick-and-place automated dispensing unit can be used to apply BERGQUIST HI FLOW THF 1600G to a room temperature heat sink. The placement head should have a soft silicone

rubber pad, and apply 30 psi pressure to the pad on transfer to the 20°- 35°C heat sink.

CONFIGURATIONS AVAILABLE

BERGQUIST HI FLOW THF 1600G are supplied in:

- Sheet form, roll form and die-cut parts
- With or without pressure-sensitive adhesive

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

Reference 2

X-ON Electronics

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