Technical Data Sheet

BERGQUIST HI FLOW THF 3500U

Known as BERGQUIST HI-FLOW 565U
April 2020

PRODUCT DESCRIPTION

High Performance, Non-Reinforced Phase Change Thermal Interface Material.

Technology	Phase Change
Appearance	Gray
Reinforcement Carrier	None
Total Thickness , ASTM D374	0.127 to 0.254mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature	125 °C

FEATURES AND BENEFITS

- Thermal impedance: 0.04ºC-in²/W @ 25 psi
- Very High Thermal Conductivity: 3.5 W/m-K
- 52°C phase change temperature
- Unsupported

TYPICAL APPLICATIONS

- Processor lid to heat sink
- FBDIMM to heat spreader
- Processor die to lid or heat sink

BERGQUIST HI FLOW THF 3500U is a thermally conductive phase change material which is applied in tabulated pad form. In the application the easy to use material undergoes a phase change at 52°C.

After phase change, BERGQUIST HI FLOW THF 3500U wets out the thermal interfaces producing a very low thermal impedance. BERGQUIST HI FLOW THF 3500U displaces easily at low pressures to provide a thermal performance comparable to the best thermal greases.

BERGQUIST HI FLOW THF 3500U is provided at a consistent thickness to ensure reliable performance. BERGQUIST HI FLOW THF 3500U is attached to the target surface via pressure from a hard rubber roller or squeegee.

TYPICAL PROPERTIES

Physical Properties

Phase Change Temperature, ASTM D3418, ºC	52
Flammability Rating, UL 94	V-0

Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K) (1)	3.5

Thermal Performance vs. Pressure

TO-220 Thermal Performance, ºC/W:	
@ 10 psi	0.29
@ 25 psi	0.27
@ 50 psi	0.25
@ 100 psi	0.24
@ 200 psi	0.23
Thermal Impedance, ASTM D5470, ºC-in²/W (2):	
@ 10 psi	0.05
@ 25 psi	0.04
@ 50 psi	0.04
@ 100 psi	0.04
@ 200 psi	0.03

I) The ASTM D5470 test fixture was used. 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.

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.

CONFIGURATIONS AVAILABLE

BERGQUIST HI FLOW THF 3500U is supplied in:

- Tabulated in roll form, kiss-cut parts – no holes
- BERGQUIST HI FLOW THF 3500U is limited to a square or rectangular part design. Dimensional tolerance is +/- 0.020 inch (0.5mm)

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

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