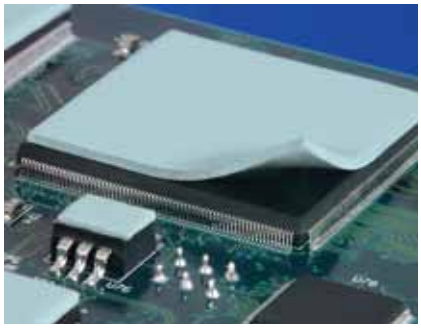
Gap Pad® 5000S35

High thermal conductivity plus "S-Class" softness and conformability

Features and Benefits

- High thermal conductivity: 5 W/m-K
- Highly conformable, "S-Class" softness
- Natural inherent tack reduces interfacial thermal resistance
- Conforms to demanding contours and maintains structural integrity with little or no stress applied to fragile component leads
- Fiberglass reinforced for puncture, shear and tear resistance
- Excellent thermal performance at low pressures



Gap Pad 5000S35 is a fiberglass-reinforced filler and polymer featuring a high thermal conductivity. The material yields extremely soft characteristics while maintaining elasticity and conformability. The fiberglass reinforcement provides easy handling and converting, added electrical isolation and tear resistance. The inherent natural tack on both sides assists in application and allows the product to effectively fill air gaps, enhancing the overall thermal performance. The top side has reduced tack for ease of handling. Gap Pad 5000S35 is ideal for high-performance applications at low mounting pressures.

TYPICAL PROPERTIES OF GAP PAD 5000S35

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Light Green	Light Green	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374
Inherent Surface Tack (1or 2 sided)	2	2	—
Density (g/cc)	3.6	3.6	ASTM D792
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Hardness Bulk Rubber (Shore 00) (1)	35	35	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	17.5	121	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	7.5	7.5	ASTM D150
Volume Resistivity (Ohm-meter)	10^9	10^9	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	5.0	5.0	ASTM D5470

THERMAL PERFORMANCE vs. PRESSURE			
Pressure (psi)	10	25	50
TO-220 Thermal Performance (ºC/W) (20 mil)	1.18	1.10	0.99
Thermal Impedance (ºC-in²/W) (3)	0.21	0.18	0.15
TO-220 Thermal Performance (ºC/W) (40 mil)	1.54	1.34	1.15
Thermal Impedance (ºC-in²/W) (3)	0.30	0.28	0.25

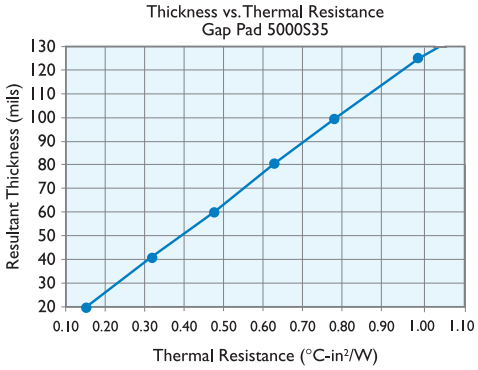
1) Thirty second delay value Shore 00 hardness scale. 2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². For more information on Gap Pad modulus, refer to Bergquist Application Note #116. 3) The ASTM D5470 test fixture was used. The recorded value 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.

Typical Applications

- CDROM / DVD ROM
- Voltage Regulator Modules (VRMs) and POLs
- Thermally-enhanced BGAs
- Memory packages / modules
- PC Board to chassis
- ASICs and DSPs

Configurations Available:

- Die-cut parts are available in any shape or size, separated or in sheet form
- Custom thicknesses available upon request



Building a Part Number

GP5000S35 – 0.020 – 02 – 0816 – NA

- Section A: GP5000S35 = Gap Pad 5000S35 Material
- Section B: 0.020 = Standard thicknesses available: 0.020", 0.040", 0.060" 0.080", 0.100", 0.125"
- Section C: 02 = Natural tack, both sides
- Section D: 0816 = Standard sheet size 8" x 16", or 00 = custom configuration
- Section E: NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

Standard Options

example

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad®: U.S. Patent 5,679,457 and others

THE BERGQUIST COMPANY www.bergquistcompany.com

The Bergquist Company - North American Headquarters
18930 West 78th Street
Chanhassen, MN 55317
Phone: 800-347-4572
Fax: 952-835-0430

The Bergquist Company - European Headquarters
Bramenberg 9a, 3755 BT Eemnes
Netherlands
Phone: 31-35-5380684
Fax: 31-35-5380295

The Bergquist Company - Asia
Room 15, 8/F Wah Wai Industrial Centre
No. 38-40, Au Pui Wan Street
Fotan, Shatin, N.T. Hong Kong
Ph: 852.2690.9296
Fax: 852.2690.2344

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