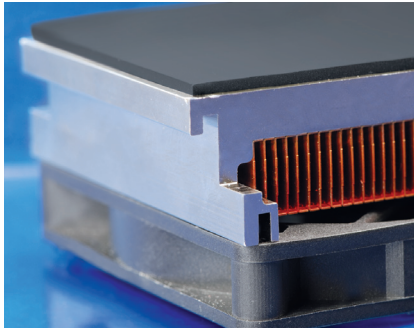


# Gap Pad® VO Ultra Soft-B

Ultra Conformable, Thermally Conductive Material for Filling Air Gaps

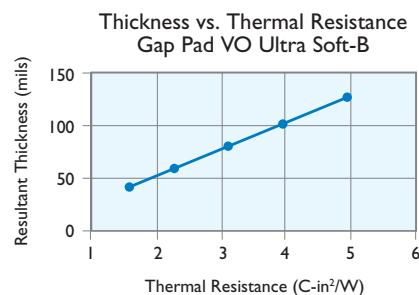
## Features and Benefits

- Thermal conductivity: 1.0 W/m-K
- Highly conformable, low hardness
- Gel-like modulus
- Decreased strain
- Puncture, shear and tear resistant
- Electrically isolating



Gap Pad VO Ultra Soft-B is recommended for applications that require a minimum amount of pressure on components. The viscoelastic nature of the material also gives excellent low-stress vibration dampening and shock absorbing characteristics. Gap Pad VO Ultra Soft-B is an electrically isolating material, which allows its use in applications requiring isolation between heat sinks and high-voltage, bare-leaded devices.

*Note: Resultant thickness is defined as the final gap thickness of the application.*



TYPICAL PROPERTIES OF GAP PAD VO ULTRA SOFT-B				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Black/Black	Black/Black	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374	
Inherent Surface Tack (1 sided)	1	1	—	
Density (Bulk Rubber) (g/cc)	1.6	1.6	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	5	5	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	8	55	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	6000	6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257	
Flame Rating	V-0	V-0	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.0	1.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	<b>Deflection (% strain)</b>	<b>10</b>	<b>20</b>	<b>30</b>
	Thermal Impedance (°C-in <sup>2</sup> /W) 0.040" (3)	1.97	1.87	1.68
	Thermal Impedance (°C-cm <sup>2</sup> /W) 1.016mm (3)	12.7	12.1	10.8

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 inch. 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.

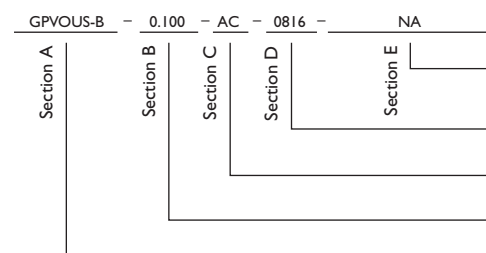
## Typical Applications:

- Various IC packages
- Thermally enhanced BGA packages
- Between any heat-generating semiconductor and a heat sink
- Computers and peripherals
- Telecommunications
- Power conversion
- Automotive
- LED lighting packages

## Configurations Available:

- Sheet form and die-cut parts

## Building a Part Number



## Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

AC = Adhesive on Sil-Pad® side, natural tack on one side  
00 = No pressure sensitive adhesive, natural tack on one side

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125"

GPVOUS-B = Gap Pad VO Ultra Soft-B Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

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



[www.bergquistcompany.com](http://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  
Netherlands  
Phone: 31-35-5380684  
Fax: 31-35-5380295

The Bergquist Company -  
Asia Headquarters  
Hong Kong  
Phone: 852-2690-9296  
Fax: 852-2690-2344

All statements, technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

PDS\_GP\_VOUS\_B\_0211