# mail

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



# Contact us

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### HIGH PERFORMANCE

## Sil-Pad 1000<sup>®</sup>, Sil-Pad 1500<sup>®</sup> and Sil-Pad 2000<sup>®</sup>

#### **SIL-PAD 1000**

Sil-Pad 1000 has the same excellent mechanical and physical characteristics of our Sil-Pad 400 material while offering a 35% reduction in thermal resistance.

Sil-Pad 1000 is a composite of silicone rubber and fiberglass. It is specially filled and offers low thermal resistance. Sil-Pad 1000 is non-toxic and resists damage from cleaning agents. It is flame retardant and specially formulated for use as a thermally conductive insulator.

#### **SIL-PAD 1500**

Sil-Pad 1500 is an economical, high performance insulator with a thickness between that of Sil-Pad 1000 and Sil-Pad 2000.

#### **SIL-PAD 2000**

Sil-Pad 2000 is Bergquist's high performance, high reliability thermally conductive insulator. Sil-Pad 2000 is designed for demanding military / aerospace and commercial applications. In these applications, Sil-Pad 2000 complies with military standards. This silicone elastomer is specially filled to maximize the thermal and dielectric performance of the filler / binder matrix. The result is a "grease-free", conformable material capable of meeting or exceeding the thermal and electrical requirements of high reliability electronic packaging applications. Sil-Pad 2000 is also available in thicknesses from .010" to .060".



#### Die-Cut parts, Rolls and Sheets

Sil-Pad 1000, 1500 and 2000 are available in die-cut parts and sheets (6" x 6" min., 6" x 12", 8" x 8", 10" x 10" and 12" x 12"). Only Sil-Pad 1000 and 1500 are available in roll form.

SIL-PAD 2000 Outgassing Data for Spacecraft Materials						
Post Cure	%TML (1.0% Max	%CVCM				
Conditions		Acceptable)				
24 hrs. @ 175°C	.07	.03				
No Post Cure	.26	.10				

MIL SPEC. MIL-M-38527/08 MIL-I-49456 MIL-I-49466/02 MIL-M-87111 U.L. FILE NUMBER E59150 FSCM NUMBER 55285

Physical Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Color	Pink	Green	White	Visual
Thickness Inches	.009 ± .001"	0.010 ± .001"	.015 ±.002"	
_(mm)	(.23 ± .025)	(.25 ± .025)	(.38 ± .025)	ASTM D 374
Elongation, % 45° to warp and fill	45	20	20	ASTM D 412
Hardness, Shore A $\pm$ 5	85	80	90	ASTM D 2240
Breaking Strength Lbs/inch (kN/m)	100 (18)	65 (12)	65(12)	ASTM D 1458
Tensile Strength, kPsi (MPa)	4 (30)			ASTM D 412
Thermal Vacuum Weight Loss				NASA
% (TML) as manufactured	.22		see	SP-R-0022A
Volatile Condensable Material				NASA
% (CVCM) as manufactured	.08		see	SP-R-0022A
Specific Gravity	1.5	1.5	1.5	ASTM D 792
Continuous Use Temp., °C	-60 to +180	-60 to + 200	-60 to +200	
Construction	Silicone/Fiberglass	Silicone/Fiberglass	Silicone/Fiberglass	
Thermal Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Thermal Resistance, °C/-in²/W	0.35	0.23	0.2	ASTM D 5470
Thermal Conductivity, W/m-K	1.2	2.0	3.5	ASTM D 5470
Electrical Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Breakdown Voltage, Volts a-c Min.	4500	4000	4000	ASTM D 149
Dielectric Constant, 1000 Cps (Hz)	4.5	4	4.0	ASTM D 150
Volume Resistivity, Ohm Metre	1.0x10 <sup>11</sup>	1.0 x 10 <sup>11</sup>	1.0x10 <sup>11</sup>	ASTM D 257