



博思威®

昆山博思威电子有限公司

Kunshan Bo Wei Electronics CO. Ltd.

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博思威®

公司简介：

昆山博思威电子有限公司，于2012年5月，创立于昆山高新区。是一家集研发、制造、销售为一体的新型导热材料生产企业和高新技术企业。公司坚持以客户为中心，市场需求为导向，为用户提供优质、快捷、高质量的产品和服务，凭借在热管理领域的专业水平和研发实力，致力于导热解决方案和导热界面材料的研发、应用和推广。公司引进国内外一流的生产设备、精密的检测仪器和先进的生产工艺。并与国内外知名品牌、高等院校和科研机构建立了紧密的合作关系。拥有业内顶尖专家、技术研发人员和资深的生产管理人员，组成一支勇于探索、锐意创新的专业技术团队。公司通过ISO9001、IATF16949质量管理体系和ISO14001环境管理体系认证，产品符合欧盟Rohs。秉承“客户至上、品质卓越、高效有效”的经营理念，锐意进取、持续创新，致力于为客户提供稳定可靠的产品和服务。

产 品 目 录



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01

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高分子复合材料(P37~38)

07

导热材料的作用

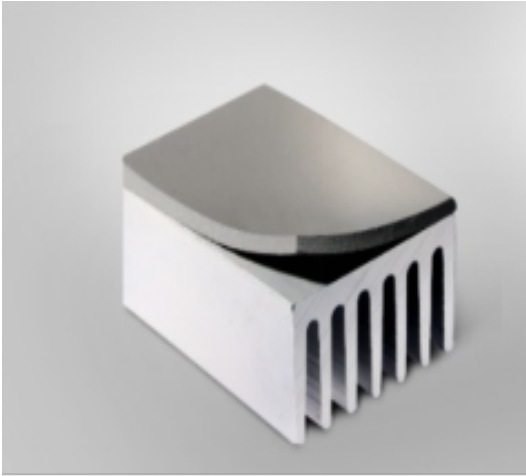
在微电子材料表面和散热器之间存在极细微的凹凸不平的间隙，如果将他们刚性的连接在一起，界面间的实际接触面积只有10%左右，其余均为空气间隙。因空气导热率只有0.024W/mK，是天然的隔热材料，将导致电子元件与散热器间的接触热阻非常大，严重阻碍了热量的传导，最终导致散热效能低下。使用高导热性的热界面材料填充这些间隙，排除其中的空气，在电子元件和散热器之间建立有效的热传递通道，可以大幅度的增加接触面积并降低接触热阻，达成高效散热的目的。



博思威产品选型目录

导热系数	导热硅胶片	导热硅脂	导热凝胶	导热石墨	导热双面胶	相变化材料	高分子材料
0.8W/mK		SG 07NS			BSW-1000 BSW-1000S		
1.0W/mK	BSW-SP10 BSW-SP10S				BSW-1200 BSW-1200S		
1.2W/mK					BSW-1500 BSW-1500S		
1.5W/mK	BSW-SP15 BSW-SP15S						
2.0W/mK	BSW-SP20 BSW-SP20S				BSW-2000S	PCM4988	
2.5W/mK	BSW-SP25 BSW-SP25S						
3.0W/mK	BSW-SP30 BSW-SP30S		BSW-SP30P		BSW-3000S		
3.7W/mK		SG 37NS					
4.0W/mK	BSW-SP40 BSW-SP40S						
5.0W/mK	BSW-SP50 BSW-SP50S						
6.0W/mK	BSW-SP60 BSW-SP60S		BSW-SP60P				
7.5W/mK	BSW-SP75 BSW-SP75P						
8.5W/mK		PTM7958-SP				PTM7958	
9.0W/mK	BSW-SP90 BSW-SP90P						
11.0W/mK	BSW-SP110 BSW-SP110P						
13.0W/mK	BSW-SP130 GR130A BSW-SP130P PG130A						
14.0W/mK	BSW-SP140 BSW-SP140P						
17.0W/mK	BSW-SP170 BSW-SP170P						
300W/mK				BSW-SM300			BSW-TB010S BSW-TB020S
500W/mK				BSW-SM500			
700W/mK				BSW-SM700			BSW-TB010 BSW-TB020
1100W/mK				BSW-SM1100			
1500W/mK				BSW-SM1500			
1700W/mK				BSW-SM1700 BSW-SM1900 BSW-SM2100			
	■ 加玻纤	NS版不含硅			S版加玻纤		010单面碳
	■ 湿黏态						020双面碳

导热硅胶片



产品描述

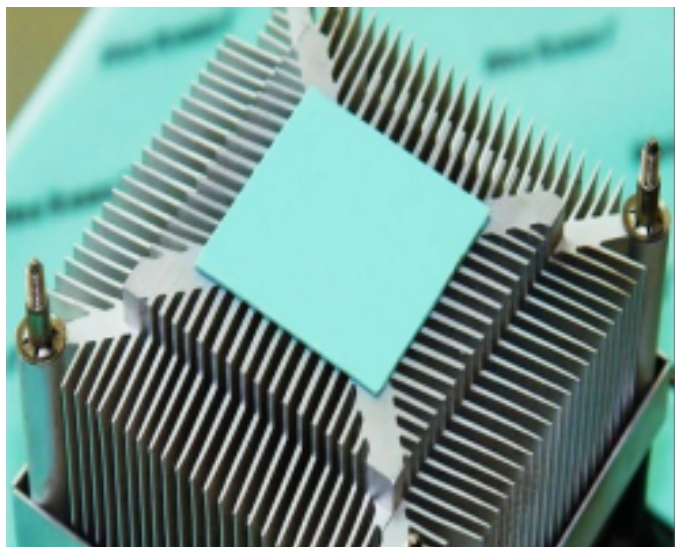
BSW-SP 系列是高性能间隙填充导热材料，主要用于电子设备与散热片或产品外壳间的传递界面。BSW-SP 系列具有良好的粘性、柔性、压缩性及优良的热传导率，使其在使用中能完全使电子原件和散热片之间的空气排出，以达到接触充分，散热效果明显增加。相比普通的绝缘导热材料在产品的安装过程中带来很大的方便性，不易脱落，便于操作。

优势特点

- | | |
|---------|---------|
| ①总热阻低 | ⑤高导热率 |
| ②性能稳定 | ⑥长效使用寿命 |
| ③可压缩性强 | ⑦耐温耐候性强 |
| ④柔软兼有弹性 | |

应用范围

- 计算机
- 通信设备
- 开关电源
- 平板电视
- 移动设备
- 视频设备
- 网络产品
- 家用电器
- PC 服务器/工作站
- 笔记本电脑
- 光驱/COMBO



一、中文品名:高效能导热硅胶

二、型号:BSW-SP10

三、规格:T(0.2-15mm)×W200×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	灰白色	Visual
厚度 Thickness	mm	0.2~15.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	2.01	ASTM D792
硬度 Hardness	Shore 00	35±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.35	ASTM D412
延伸率 Elongation	%	85	ASTM D412
介电常数 Dielectric Constant	1MHz	5.85	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥8	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	4.7×10^{10}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damnify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	1.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.0008	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP15

三、规格:T(0.2-15mm)×W200×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	ALL	Visual
厚度 Thickness	mm	0.2~15.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cm ³	2.7	ASTM D792
硬度 Hardness	Shore 00	35±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.4	ASTM D412
延伸率 Elongation	%	80	ASTM D412
介电常数 Dielectric Constant	1MHz	6.05	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥7	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.5×10^{10}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damnify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	1.5	ASTM D5470
热阻 Thermal resistance	m ² k/w	0.0006	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP20

三、规格:T(0.2-15mm)×W200×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	ALL	Visual
厚度 Thickness	mm	0.2~15.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.01	ASTM D792
硬度 Hardness	Shore 00	40±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.13	ASTM D412
延伸率 Elongation	%	75	ASTM D412
介电常数 Dielectric Constant	1MHz	7.05	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5.0	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	1.0×10 ¹¹	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damify	%	≤0.3	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	2.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.0004	ASTM D5470

厚度公差：±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP25

三、规格:T(0.2-15mm)×W200×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	浅绿色	Visual
厚度 Thickness	mm	0.2~15.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.05	ASTM D792
硬度 Hardness	Shore 00	40±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.13	ASTM D412
延伸率 Elongation	%	60	ASTM D412
介电常数 Dielectric Constant	1MHz	6.65	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	1.3×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damnify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	2.5	ASTM D5470
热阻 Thermal resistance	m² k/w	0.0003	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP30

三、规格:T(0.2~8mm)×W200mm×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	ALL	Visual
厚度 Thickness	mm	0.2~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.02	ASTM D792
硬度 Hardness	Shore 00	45±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.15	ASTM D412
延伸率 Elongation	%	58	ASTM D412
介电常数 Dielectric Constant	1MHz	7.36	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	2.2×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	3.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.0002	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP40

三、规格:T(0.3~8mm)×W200mm×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	ALL	Visual
厚度 Thickness	mm	0.3~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.05	ASTM D792
硬度 Hardness	Shore 00	45±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.18	ASTM D412
延伸率 Elongation	%	50	ASTM D412
介电常数 Dielectric Constant	1MHz	8.22	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.2×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	4.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.000096	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP50

三、规格:T(0.3-8mm)×W200×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	/	Visual
厚度 Thickness	mm	0.3~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.06	ASTM D792
硬度 Hardness	Shore 00	50±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.15	ASTM D412
延伸率 Elongation	%	40	ASTM D412
介电常数 Dielectric Constant	1MHz	8.35	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.8×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damnify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	5.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.00009	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP60

三、规格:T(0.3~8mm)×W200mm×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	----	/	Visual
厚度 Thickness	mm	0.3~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.08	ASTM D792
硬度 Hardness	Shore 00	52±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.15	ASTM D412
延伸率 Elongation	%	40	ASTM D412
介电常数 Dielectric Constant	1MHz	8.35	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.8×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	6.0	ASTM D5470
热阻 Thermal resistance	m² k/w	0.00008	ASTM D5470

厚度公差: ±10%

一、中文品名:高效能导热硅胶

二、型号:BSW-SP75

三、规格:T(0.5-8mm)×W200mm×L400mm

主要特性参数表

测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	/	Visual
厚度 Thickness	mm	0.5~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.10	ASTM D792
硬度 Hardness	Shore 00	60±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.15	ASTM D412
延伸率 Elongation	%	20	ASTM D412
介电常数 Dielectric Constant	1MHz	8.35	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.8×10^{11}	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	7.5	ASTM D5470
热阻 Thermal resistance	m² k/w	0.00009	ASTM D5470

厚度公差: ±10%

- 一、中文品名:高效能导热硅胶
- 二、型号:BSW-SP110
- 三、规格:T(0.5-8mm)×W200mm×L400mm

主要特性参数表

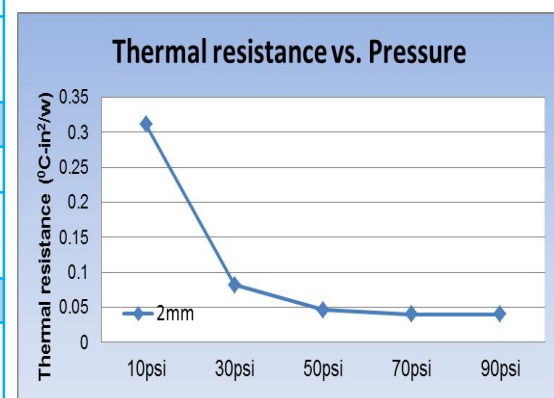
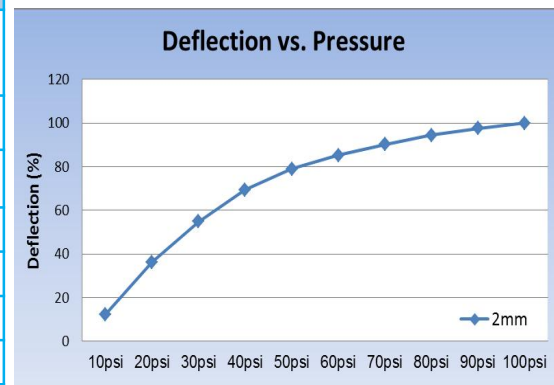
测试项目 Test Item	单 位 Unit	数 值 Data	测试标准 Test Method
颜色 Color	-----	灰色	Visual
厚度 Thickness	mm	0.5~8.0	ASTM D374
规格 Spec	mm	根据客户要求	ASTM D1204
密度 Density	g/cc	3.15	ASTM D792
硬度 Hardness	Shore 00	65±10	ASTM D2240
拉伸强度 Tensile Strength	MPa	0.15	ASTM D412
延伸率 Elongation	%	15	ASTM D412
介电常数 Dielectric Constant	1MHz	8.35	ASTM D150
击穿电压 Breakdown Voltage	Kv/mm	≥5	ASTM D149
体积电阻率 Volume Impedance	Ω.cm	6.8×10 ¹¹	ASTM D257
耐温范围 Continuous Use Temp	℃	-40~180	EN344
重量损失 Weight Damnify	%	≤0.5	@200℃ 240H
防火性能 Flame Rating	-----	V-0	UL 94
导热系数 Thermal Conductivity	W/mK	11	ASTM D5470
热阻 Thermal resistance	m² k/w	0.00008	ASTM D5470

厚度公差：±10%

Product Name: BSW-SP130

BSW-SP130 is a thermally conductive, reinforced material rated at a thermal conductivity of about 13 W/mK, low thermal resistances can be achieved at low pressures. This soft gap pad conforms well to minimal pressure, resulting in excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography. BSW-SP130 is naturally tacky, and no adhesive coating is required, to provide easy handling and converting process.

BSW-SP130 Technical Data		
Property	Result	Test Method
Construction & Composition	Ceramic filled silicone	—
Color	Dark Grey	Visual
Thickness Range	0.4mm - 8mm	-
Density	3.5 g/cc	Helium Pycnometer
Hardness	30 (Shore OO)	ASTM D2240
Tensile Strength	4 psi	ASTM D412
Elongation	7.8%	ASTM D412
Deflection @ 2mm/20psi	38%	ASTM D575
Temperature Range	-50°C to 200°C	-
UL Flammability Rating	94V0	UL
Thermal Property		
Thermal Conductivity	13 W/mK	ASTM D5470
Thermal Resistance @2mm/10psi	0.31°C-in ² /W	ASTM D5470
Electrical Property		
Dielectric Breakdown Strength	>5kV/mm	ASTM D149
Volume Resistivity	>1x10 ¹³ ohm-cm	ASTM D257
Dielectric Constant @1MHz	5.7	ASTM D150



Note: Gap pad can be non-tacky treated as one side or both two sides if need. The non-tacky surface treated one side or double is with soft protective liner.

Fujipoly Data Sheet

SARCON® GR130A series

High Performance Gap Filler Type

FEATURES

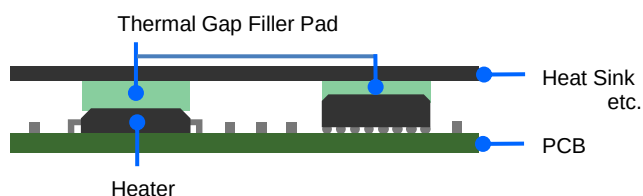
Highly Conformable and High Heat Conducting gel materials.

SARCON® Thermal Gap Filler Pads are highly conformable and high heat conducting gel materials in a versatile sheet form. They easily fit and adhere to most all shapes and sizes of components, including protrusions and recessed areas.

CONSTRUCTIONS

Series	Characteristics	Constructions
SARCON® GR130A-00	Silicone compound with double sticky surfaces and Thermal Conductivity of GR130A-00 material is 13.0W/m-K by using Hot Disk	 Plain Type

RECOMMENDED APPLICATION



In areas where space between surface is uneven or varies and where surface textures are a concern regarding efficient thermal transfer, the supple consistency of Gap Filler Pad is excellent for filling air gaps and uneven surfaces.

THERMAL RESISTANCE

GR130A-00

Unit : K-cm²/W (K-in²/W)

Compression Force	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.3 (0.04)	0.4 (0.06)	0.7 (0.11)	1.0 (0.16)	1.3 (0.20)
300kPa /43.5psi	0.2 (0.03)	0.3 (0.05)	0.6 (0.09)	0.8 (0.13)	1.0 (0.15)
500kPa /72.5psi	0.2 (0.03)	0.3 (0.05)	0.5 (0.08)	0.7 (0.11)	0.7 (0.11)

Test method: Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent

- Specimen Area; DIA.33.0mm (1.30in)

TYPICAL PROPERTIES

Properties	unit	GR130A-00		Test method	Specimen
Physical Properties	Color	-	Light Gray	Visual	-
	Specific Gravity	-	3.0	ASTM D792	A
	Hardness Highest Value	Shore OO (ASKER-C)	74 (53)	ASTM D2240 JIS K7312	B
Electrical Properties	Volume Resistivity	Ohm-m	1.0×10^{10}	ASTM D257	C
	Breakdown Voltage	kV/mm (volts/mil)	14 (356)	ASTM D149	C
	Dielectric Strength	kV/mm (volts/mil)	7 (178)	ASTM D149	C
	Dielectric Constant	-	50Hz	ASTM D150	A
		-	1kHz		
		-	1MHz		
	Dissipation Factor	-	50Hz	ASTM D150	A
		-	1kHz		
		-	1MHz		
Thermal Properties	Thermal Conductivity	W/m-K	13.0	ISO 22007-2	-
	Useful Temperature	°C (°F)	-40 to +150 (-40 to +302)	-	-
	Low molecular Siloxane	wt%	D ₄ to D ₂₀ Total	0.0194	Gas Chromatography
	Flame Retardant	-	V-0 equivalent	UL 94	-

• Specimen A: 2mmT Specimen B: 60mmW x 120mmL x 20mmT • Specimen C: 120mmW x 120mmL x 1mmT

COMPRESSION FORCE**GR130A-00**Unit : N/6.4cm² (psi)

Compression Ratio	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	19 (4.3)	224 (50.8)	299 (67.7)	177 (40.1)	150 (31.7)
20%	370 (83.8)	460 (104.2)	529 (119.9)	387 (87.7)	364 (82.5)
30%	563 (127.6)	908 (205.7)	1026 (232.5)	807 (182.8)	701 (158.8)
40%	784 (177.6)	1559 (353.2)	1386 (314.0)	1391 (315.1)	1068 (242.0)
50%	1330 (301.3)	2030 (459.9)	2095 (474.6)	1949 (441.6)	1406 (318.5)
Sustain 50%	835 (189.2)	845 (191.4)	350 (79.3)	289 (65.5)	182 (41.2)

Test method: Measured by ASTM D575-91 for reference

- Specimen Area; DIA.28.6mm (1.13in) • Platen Area; DIA. 28.6mm (1.13in) • Sustain 50%: Sustain 50% at 1 minute later
- Compression Velocity; 5.0mm/minute

DURABILITY

Test Property	Unit	70°C		150°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0	3.0	2.9
Hardness	Shore OO	74	80	74	94
Breakdown Voltage	kV/mm	14	16	14	18
Thermal Resistance*	K·cm ² /W	0.54	0.50	0.58	0.66

Test Property	Unit	60°C/90%RH		-40°C/30min⇔125/30min	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0	3.0	3.0
Hardness	Shore OO	74	89	74	91
Breakdown Voltage	kV/mm	14	18	14	17
Thermal Resistance*	K·cm ² /W	0.6	0.6	0.59	0.57

Test Property	Unit	-40°C	
		Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0
Hardness	Shore OO	74	74
Breakdown Voltage	kV/mm	14	13
Thermal Resistance*	K·cm ² /W	0.53	0.57

reduced temperature

-40°C = -40°F

60°C = 140°F

70°C = 158°F

125°C = 257°F

150°C = 302°F

*Test method : FTM P-3030 (ASTM D 5470 modified)

Thermal resistance

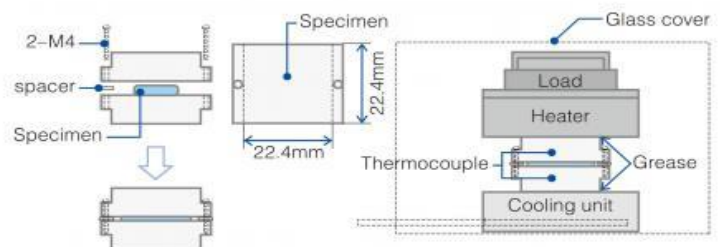
Sample Size : 15mm x 15mm x 1mm

Spacer : 0.7mm (Compression ratio 30%)

$$R_t = (\Delta T \cdot S / Q) - 0.34$$

R_t : Thermal Resistance (°C·cm²/W)

Q : Apply electricity (W)

ΔT : Top and bottom metal board difference of temperature T₁-T₂ (°C)S : Sample contact area(cm²)0.34 : The thermal resistance revision of the aluminum blocks (°C·cm²/W)

TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON® GR130A-00	GR130A-00-30GY	0.3mm $\pm$ 0.06mm	300mm $\times$ 200mm (Recommended Usable Size: 290mm $\times$ 190mm)
	GR130A-00-50GY	0.5mm $\pm$ 0.10mm	
	GR130A-00-100GY	1.0mm $\pm$ 0.20mm	
	GR130A-00-150GY	1.5mm $\pm$ 0.20mm	
	GR130A-00-200GY	2.0mm $\pm$ 0.30mm	

HANDLING NOTES

- It is recommended to use the material in up to 30% of compression ratio. Using the material beyond the recommended compression rate may result in excessive silicone oil exudation.
- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

WARRANTY STATEMENT

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Fujipoly Test method FTM-P3030 based on ASTM D5470 and ASTM C177 (GHP) method.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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Fujipoly Data Sheet

SARCON® PG130A series

Extremely Compressible Gap Filler Type

FEATURES

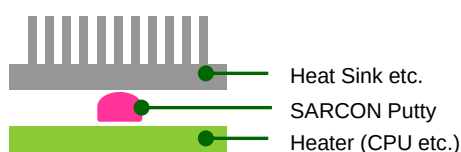
Highly Conformable and Non-Flammable, Higher Thermal interface materials

SARCON® Extremely Compressible Gap Filler Type (Putty Type) is a highly conformable, thermally conductive, non-flammable interface materials. The surface consistency is excellent for filling small air gaps and uneven mating surface, making reliable contact with various shapes and sizes of components.

CONSTRUCTION

Series	Characteristics	Constructions
SARCON® PG130A	Silicone compound with double sticky surfaces and Thermal Conductivity of PG130A material is 13.0W/m-K by using Hot Disk.	 Plain Type

RECOMMENDED APPLICATION



To determine the size and volume of SARCON Putty Type to be used, follow this helpful example:



EX.
Original Gap : $V=90.0\text{mm}^3$
(0.4mm H x 15mm W x 15mm L)

Decide Thickness of SARCON depend on the compression force
e.g. Decided Thickness = 1.0mm

$$\sqrt{90.0(V) / 1 (T)} = 9.486 \text{ mm}$$

⇒ use ; 9.5 mm x 9.5 mm x 1.0 mmT

THERMAL RESISTANCE

Unit : K-cm²/W (K-in²/W)

Compression Force	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.20 (0.03)	0.29 (0.04)	0.65 (0.10)	0.83 (0.13)	1.07 (0.17)
300kPa /43.5psi	0.17 (0.03)	0.23 (0.04)	0.34 (0.05)	0.39 (0.06)	0.41 (0.06)
500kPa /72.5psi	0.14 (0.02)	0.19 (0.03)	0.21 (0.03)	0.21 (0.03)	0.22 (0.03)

Test method: Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent

• Specimen Area; DIA.33.0mm (1.30in)

TYPICAL PROPERTIES

Properties	unit	PG130A		Test method	Specimen
Physical Properties	Color	-	Pink	Visual	-
	Specific Gravity	-	3.0	ASTM D792	A
Electrical Properties	Volume Resistivity	Ohm-m	2×10^9	ASTM D257	B
	Breakdown Voltage	kV/mm (volts/mil)	13 (330)	ASTM D149	B
	Dielectric Strength	kV/mm (volts/mil)	8 (203)	ASTM D149	B
	Dielectric Constant	-	50Hz	ASTM D150	A
			1kHz		
			1MHz		
	Dissipation Factor	-	50Hz	ASTM D150	A
			1kHz		
			1MHz		
Thermal Properties	Thermal Conductivity	W/m-K	13.0	ISO 22007-2	-
	Useful Temperature	°C (°F)	-40 to +150 (-40 to +302)	-	-
	Low molecular Siloxane	wt%	D ₄ to D ₂₀	0.0054	Gas Chromatography
	Flame Retardant	UL94	V-0	UL 94	-

- Each Specimens are cured for measurement.
- Specimen A: 2mmT
- Specimen B: 120mmW × 120mmL × 1mmT

COMPRESSION FORCE

Unit : N/6.4cm² (psi)

Compression Ratio	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	22 (5.0)	57 (12.9)	60 (13.6)	54 (12.2)	37 (8.4)
20%	253 (57.3)	440 (99.7)	159 (36.0)	258 (58.5)	99 (22.4)
30%	541 (122.6)	782 (177.2)	431 (97.6)	534 (121.0)	294 (66.6)
40%	931 (210.9)	930 (210.7)	846 (191.7)	838 (189.9)	730 (165.4)
50%	1112 (251.9)	1549 (350.9)	1364 (309.0)	1097 (248.5)	940 (213.0)
Sustain 50%	769 (174.2)	723 (163.8)	333 (75.4)	209 (47.4)	176 (39.9)

Test method: Measured by ASTM D575-91 for reference

- Specimen Area; DIA.28.6mm (1.13in)
- Platen Area; DIA. 28.6mm (1.13in)
- Sustain 50%: Sustain 50% at 1 minute later
- Compression Velocity; 5.0mm/minute

DURABILITYUnit : K-cm²/W

Test Property	Compression Ratio	70°C					150°C				
		Initial	100hrs	250hrs	500hrs	1,000hrs	Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.53	0.55	0.55	0.57	0.52	0.51	0.48	0.48	0.54	0.55
	70%	0.29	0.32	0.30	0.30	0.32	0.27	0.25	0.25	0.27	0.26

Test Property	Compression Ratio	60°C/95%RH					85°C/85%RH				
		Initial	100hrs	250hrs	500hrs	1,000hrs	Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.56	0.53	0.53	0.54	0.51	0.62	0.64	0.66	0.60	0.61
	70%	0.33	0.30	0.31	0.27	0.30	0.29	0.24	0.30	0.29	0.28

Test Property	Compression Ratio	-40°C(30min)↔+125°C(30min)				
		Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.50	0.52	0.53	0.50	0.49
	70%	0.34	0.27	0.28	0.27	0.28

- Thermal Resistance ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

- Specimen Area; 30% = 15mm square , initial thickness = 1.0mm

- Specimen Area; 70% = 10mm square , initial thickness = 1.0mm

(Specimen is sandwiched between aluminum blocks.)

reduced temperature

-40°C = -40°F

60°C = 140°F

70°C = 158°F

125°C = 257°F

150°C = 302°F

TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON® PG130A	PG130A-00-30PK	0.3mm ±0.06mm	300mm × 200mm (Recommended Usable Size:290mm×190mm)
	PG130A-00-50PK	0.5mm ±0.10mm	
	PG130A-00-100PK	1.0mm ±0.15mm	
	PG130A-00-150PK	1.5mm ±0.20mm	
	PG130A-00-200PK	2.0mm ±0.30mm	

HANDLING NOTES

- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

WARRANTY STATEMENT

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Fujipoly Test method FTM-P3030 based on ASTM D5470 and ASTM C177 (GHP) method.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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SG 07NS

Non-Silicone Thermal Compound

Product Description

SG 07NS Heat Sink Compound is grease-like NON-SILICONE, non-migrating material thickened with heat-conductive powders. This compound provides high thermal conductivity, low bleed and high temperature stability.

SG 07NS has been engineered to solve the problems of contamination and migration associated with silicone-based products. The compound is a unique Polysynthetic-based thermal grease used to insure rapid and efficient heat transfer and dissipation for the full operational life of your hardware.

Key Features and Benefits

- **Formulated with low viscosity for easy dispensing and screen printing/Stencil, and automated dispensing.**
- **Thin Bond lines Of 1-2 mil.**
- **Non-Silicone Advantages/No creep or Migration over wide temperature range.**
- **Low Interface Thermal Resistance. (0.03 °C-In² /W)**
- **High Thermal Conductivity, High dielectric strength.**
- **Exceptionally low bleed and evaporation.**
- **Meets MIL-C-47113 & Mis-19846 specifications..**
- **Non-Toxic.**
- **Reworkable/Easy to Remove.**

Typical Applications

SG 07NS Heat Sink Compound is applied to the base and mounting studs of transistors, diodes and silicone controlled rectifiers. In these situations, a small amount of thermal grease is applied using either the dispensing or screen printing/stencil methods. **SG 07NS** can be used as a high-voltage corona suppressant/non-flammable coating, in connections for fly back transformers located in TV sets and similar design applications. It is also used in mounting semi-conductor devices; thermoelectric modules; power transistors and diodes; coupling entire heat generating assemblies to chassis; heat transfer medium on ballasts; thermal joints; thermocouple wells; mounting power resistors; and for any devices where efficient cooling is required in major industries including, electronic (computer, appliance, wireless, etc.), automotive and electrical.

Shelf-Life

SG 07NS has a shelf-life of 5 years at room temperature (25°C) in unopened containers. Slight settling of the filler may occur during long-term storage. In this case, it is recommended to refrigerate material at 0-10°C to avoid any settling.

Clean Up:

Standard approved clean-up and disposal procedures should be followed. The use of disposable containers and utensils are recommended whenever possible to simplify and expedite clean-up. However, when disposable containers are impractical, **SG 07NS** can be removed by cleaning solvents with such as Mineral Spirit (Paint Thinner), Heptane or Isopropyl Alcohol.

Typical Properties

Property	Value
Viscosity:	Thixotropic Paste
Specific Gravity, @ 25°C	2.4
Color:	Blue or White
Evaporation, @ 200°C, 24 Hrs., %/Wt.	0.6
Thermal Conductivity, (ASTM D5470)	
Cal/Sec. Cm.°C	19 x 10 ⁻⁴
BTU.In/(Hr.Ft ² .°F)	5.5
W/m.°K	0.80
Thermal Resistance (°C-In² /W)	0.03
Electrical Properties :	310
Dielectric strength. (ASTM D150) 0.05" gap, V/mil	
Dielectric constant. (ASTM D150) 25°C @ 1,000 Hz.	4.4
Dissipation factor. (ASTM D150) 25°C @ 1,000 Hz.	0.0021
Volume Resistivity. (ASTM D257) Ohm-cm.	1.54 x 10 ¹⁴
Operating Temperature Range.	-55°C to 200°C



SG-37NS

Non-Silicone Thermal Compound

Product Description

SG-37NS Heat Sink Compound is grease like NON-SILICONE, non-migrating material heavily thickened with heat-conductive powders. This compound provides high thermal conductivity, low bleed and high temperature stability.

SG-37NS has been engineered to solve the problems of contamination and migration associated with silicone-based products. The compound is unique polysynthetic-based thermal grease used to insure rapid and efficient heat transfer and dissipation for the full operational life of your hardware.

Key Features and Benefits

• Low Interface Thermal Resistance. (0.014 °C-In² /W)
• High Thermal Conductivity. (3.7 W/m. °K)
• Electrical Insulator
• Exceptionally low bleed and evaporation.
• Non-Silicone Advantages/No creep or Migration over wide temperature range.
• Reworkable/Easy to Remove.
• Easy to Dispense.

Typical Applications

SG-37NS Heat Sink Compound is applied to the base and mounting studs of transistors, diodes and silicone controlled rectifiers. In these situations, a small amount of thermal grease is using either dispensing or screen printing/stencil methods. SG-37NS can is used as a high- voltage corona suppressant/ non-flammable coating, in connections for fly back transformers located in TV sets and similar applications. It is also used in mounting semi-conductor devices; thermoelectric modules; power transistors and diodes; coupling entire heat generating assemblies to chassis; heat transfer medium on ballast; thermal joints; thermocouple wells; mounting power resistors; for any devices where efficient cooling is required in major industries including, electronic (computer, appliance, wireless, etc.), automotive, electrical.

DISCLAIMER: All statements, technical information, and recommendations related to Fujipoly products are based on information believed to be reliable, but accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You must assume all risks and liability associated with such use. Fujipoly will not be liable for any indirect, special, incidental or consequential loss or damage arising from this product, regardless of legal theory asserted.

Shelf-Life

SG-37NS has a shelf-life of 18 months at room temperature (25°C) in unopened containers. Slight settling of the fillers may occur during long-term storage. In this case, it is recommended to re-disperse the fillers by hand or with mechanical mixing. Refrigerate material at 0-10°C to avoid any settling.

Clean Up:

Standard approved clean-up and disposal procedures should be followed in every situation. The use of disposable containers and utensils are recommended whenever possible to simplify and expedite clean-up. However, when disposable containers are impractical, SG 37NS can be removed by cleaning solvents with such as Mineral Spirit (Paint Thinner), Heptane or Isopropyl Alcohol..

Typical Properties

Property	Value
Viscosity:	Thixotropic Paste
Specific Gravity, @ 25°C	2.2
Color:	Gray
Evaporation, @ 200°C, 24 Hrs., %/Wt.	0.2
Thermal Conductivity, (ASTM D5470)	
Cal/Sec. Cm.°C	88 x 10 ⁻⁴
BTU. In/(Hr.Ft ² .°F)	26
W/m.°K	3.7
Thermal Resistance (°C-In²/W)	0.014
Electrical Properties :	212
Dielectric strength. (ASTM D150) 0.05" gap, V/mil	
Operating Temperature Range.	-55°C to 205°C

BSW-SP30P单组份导热凝胶



BSW-SP30P是一款膏状的间隙填充高导热材料。是一种柔软且导热优良的弹性体，随结构形状成型；针对不平整的陶瓷、散热器表面或者不规则腔体，它具备最优异的结构适用性和结构件表面贴膜特性，缝隙填充充分。

应用领域推荐：

- 新能源汽车
- 通信设备
- 消费电子
- LED灯具
- 安防设备

应用方式：

(1) 清洁表面：将被粘或被涂覆物表面清理干净，并除去锈迹、灰尘和油污；

(2) 施胶：拧开胶管盖帽，安装合适的混合管，将胶挤到已清理干净的表面，使之分布均匀即可，使用点胶机或胶枪进行点胶；

注意事项：施胶完成后，未用完的胶应立即拧紧盖帽，密封保存。再次使用时，若封口处有少许结皮，将其去除即可，不影响正常使用。

包装：

包装规格：100克/支，1000克/支，20千克/桶
可按照客户要求订制包装。

该系列产品环保符合RoHS2.0、卤素、REACH标准。

储存条件：常温避光

储存温度：≤40℃

储存湿度：≤85%

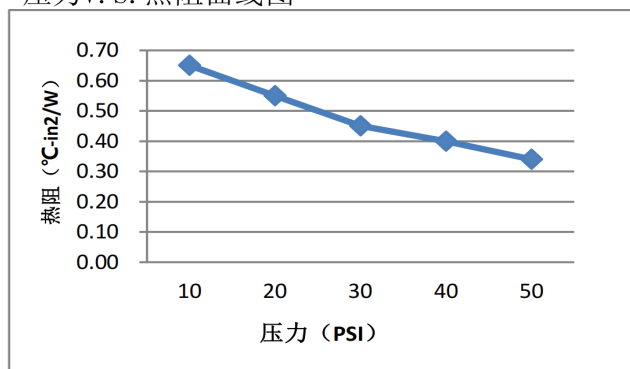
保质期：

出厂日期起12个月

产品性能

NO.	参数	单位	测试方法
颜 色	浅灰色	--	目视
密 度	2.9(±0.3)	g/cc	ASTM D 792
挤出速率 @90 psi	≥25	g/min	φ2.41mmEFD注射头
最小填充缝隙	0.2	mm	--
防火性能	V0	--	UL 94
使用温度	-40~200	°C	IEC 60068-2-14
导热系数	3.0(±0.4)	W/m·K	ASTM D 5470
热 阻	≤0.65 (@20psi)	°C·in ² /W	ASTM D 5470
击穿电压	≥6	kV/mm	ASTM D 149
体积电阻率	≥1.7*10 ⁸	Ω·cm	ASTM D 257
介电常数	≥2	@1MHz	ASTM D 150
粘度	300~420	K*mpa.s	ASTM D2196

压力V. S. 热阻曲线图



BSW-SP60P单组份导热凝胶



BSW-SP60P是一款膏状的间隙填充高导热材料。是一种柔软且导热优良的弹性体，随结构形状成型；针对不平整的陶瓷、散热器表面或者不规则腔体，它具备最优异的结构适用性和结构件表面贴服特性，缝隙填充充分。

应用领域推荐：

- 新能源汽车
- 通信设备
- 消费电子
- LED灯具
- 安防设备

应用方式：

(1) 清洁表面：将被粘或被涂覆物表面清理干净，并除去锈迹、灰尘和油污；

(2) 施胶：拧开胶管盖帽，安装合适的混合管，将胶挤到已清理干净的表面，使之分布均匀即可，使用点胶机或胶枪进行点胶；

注意事项：施胶完成后，未用完的胶应立即拧紧盖帽，密封保存。再次使用时，若封口处有少许结皮，将其去除即可，不影响正常使用。

包装：

包装规格：100克/支，1000克/支，20千克/桶
可按照客户要求订制包装。

该系列产品环保符合RoHS2.0、卤素、REACH标准。

储存条件：常温避光

储存温度： $\leq 40^{\circ}\text{C}$

储存湿度： $\leq 85\%$

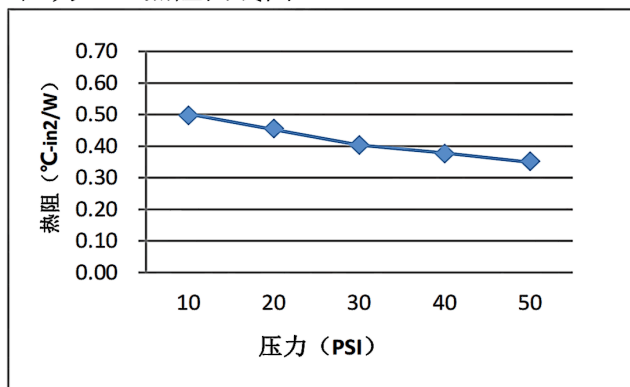
保质期：

出厂日期起12个月

产品性能

NO.	参数	单位	测试方法
颜 色	灰色	--	目视
密 度	3.2(± 0.3)	g/cc	ASTM D 792
挤出速率 @90 psi	≥ 20	g/min	$\phi 2.41\text{mm}$ EFD注射头
最小填充缝隙	0.2	mm	--
防火性能	V0	--	UL 94
使用温度	-40~200	$^{\circ}\text{C}$	IEC 60068-2-14
导热系数	6.0(± 0.5)	W/m-K	ASTM D 5470
热 阻	≤ 0.05 (@20psi)	$^{\circ}\text{C}\cdot\text{in}^2/\text{W}$	ASTM D 5470
击穿电压	≥ 6	kV/mm	ASTM D 149
体积电阻率	$\geq 1.6 \times 10^8$	$\Omega\cdot\text{cm}$	ASTM D 257
介电常数	≥ 2	@1MHz	ASTM D 150
粘度	250~380	K*mpa.s	ASTM D2196

压力V. S. 热阻曲线图



品名：导热石墨

BSW-SM系列导热石墨， $K=300 \sim 2100W/m.k$, 超高导热性，易施工，柔韧，可压缩，可提供包覆（如有绝缘要求）和非包覆，亦可以修边，压制成型或涂覆胶水和塑胶，温度适用范围从 $-50 \sim 3000^{\circ}C$ （惰性环境下）。无气体和液体参透性，石墨层不老化 and 脆化，适用于大多数化学介质，石墨材料是导热硅脂及相变化材料一个很好的替代方案，可按客户特殊要求定制，适应范围广（如集成电路，高功率密度电子器件，电脑，手机，尖端电子仪器，动力电池等散热环境）。在航天、航空、汽车、电脑和电子工业领域有良好的应用前景。



应用范围：

AI设备 手机 平板电脑 笔记本电脑 显示器 平板电视 汽车电子 计算机 网通设备 视频设备
家用电器 开关电源 服务器/工作站 光驱/COMBO

应用方式：

线路板和散热片之间的填充，IC和散热片或产品外壳间的填充，IC和类似散热材料之间的填充等。

主要特性参数表

特性	型号					测试方法
	天然石墨	天然石墨	天然石墨	人工石墨	人工石墨	
	BSW-SM300	BSW-SM500	BSW-SM700	BSW-SM1100	BSW-SM1500	
颜色	灰色	灰色	灰色	灰色	灰色	视检
厚度（mm）	0.1~1.0	0.05~1.0	0.03~0.1	0.032 0.045	0.017 0.025	ASTM D374
公差（mm）	±0.005	±0.005	±0.005	±0.005	±0.005	/
密度（g/cm³）	1.2	1.4	1.7	2.0	2.1	ASTM D792
工作温度（℃）	- 40~200	- 40~200	- 40~200	- 50~400	- 50~400	/
X・Y轴导热系数 （W/m・k）	300	500	700	1100	1500~2100	ASTM E1461
Z轴导热系数 （W/m・k）	5	7	10	14	20	ASTM D5470
电导率（s/m）	2×10 ⁶	2×10 ⁶	2×10 ⁶	2×10 ⁶	2×10 ⁶	ASTM C611
抗拉强度 （M・pa）	17.5	18.7	21.2	25.3	28	ASTM F152
折叠次数 （R5/180° 弯折）	/	/	/	>20000	>20000	/

导热双面胶

产品特性

- 1、厚度极薄、极低热阻抗、有效且迅速将热流导引至散热系统。
- 2、双面胶形式、黏着性强、绝缘性佳、使用相当方便。
- 3、依客户需求裁切冲型成标签或贴纸形式，无论是 LED light-bar 所需的长条状，或是 LED 圆形基板都可以制作。
- 4、导热胶带针对同等品的取代性极高，并具有明显的价格优势。
- 5、快速加工、良率高、效率快、无须使用导热胶的等待干燥时程。
- 6、避免使用导热膏时所产生的涂布不均现象，无流动性避免污染工作环境。

导热胶带避免了导热膏或导热垫片容易有硅油析出现象而造成热导衰减加速老化，较导热膏或导热胶容易掌握使用量，避免浪费或过度使用容易控制成本。

- 7、适用于加工方式或加工环境特殊而无法使用流体导热材的产品。
- 8、储存方便容易，无须特殊环境，成品后续维护检修或重新加工时除胶容易。

产品应用

- 1、Heat sink（散热模块）。
- 2、LCD/LED-TV & LED 灯具散热应用等。
- 3、DDR Module 应用等。

规范类别	单位	BSW-1000	测试规范
颜色	/	白色	Visual
厚度	mm	0.1-0.5	ASTM D374
基材	/	/	/
导热系数	W/m.k	0.8	ASTM D5470
热阻值@10psi	°Cin2/W	1.0	ASTM D5470
耐电压值	KV/mm	> 2.0	ASTM D149
180 度黏着力	Kgf/in	1.6-2.5	ASTM D3330
保持力(1kg)	1 Week	PASS	ASTM D3654
保持力(120°C/1kg)	72H	2mm	ASTM D3654
工作温度范围	° C	-30 ~ +120	/
密度	g/cc	1.6±0.2	ASTM D792
重量损失	%	<1	/
REACH 规范	/	OK	/
RoHS 规范	/	OK	/

产品参数表

规范类别	单位	BSW-1200S	测试规范
颜色	/	白色	Visual
厚度	mm	0.1-0.5	ASTM D374
基材	/	玻璃纤维布	/
导热系数	W/m.k	1.0	ASTM D5470
热阻值@10psi	°C in2/W	1.0	ASTM D5470
耐电压值	KV/mm	> 3.0	ASTM D149
180 度黏着力	Kgf/in	1.6-2.5	ASTM D3330
保持力(1kg)	1 Week	PASS	ASTM D3654
保持力(120°C/1kg)	72H	2mm	ASTM D3654
工作温度范围	° C	-30 ~ +120	/
密度	g/cc	1.9±0.2	ASTM D792
重量损失	%	<1	/
REACH 规范	/	OK	/
RoHS 规范	/	OK	/

PCM4988

High Thermal Conductivity Phase Change Material

Honeywell's PCM4988, a highly thermally conductive Phase Change Material (PCM) in pad format, was designed to minimize thermal resistance at interfaces. Based on a novel polymer PCM system, this material exhibits excellent wetting at interfaces during typical operating temperature range, resulting in very low surface contact resistance.

A proprietary filler material provides high thermal conductivity (2.0–5.0 W/m°C) and a low thermal impedance ($<0.20^{\circ}\text{C cm}^2/\text{W}$), suitable for high performance IC devices.

PCM4988 in Convenient Pad Format



*Stencil printable material is available as PCM4988-SP

Honeywell TIMs Serve Multiple Applications



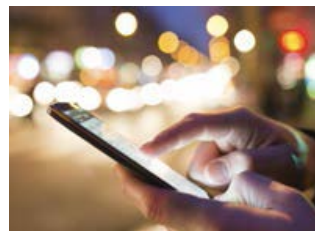
Automotive & Power



IT/Enterprise



Telecommunications



Consumer Electronics



FEATURES & BENEFITS

- High performance filler and polymer technology
- Phase change at 45°C
- Highly conductive filler loading to optimize performance
- Superior handling and reworkability
- Superior reliable thermal performance
- Excellent thermal capability to fit different needs

PCM4988 Technical Information

Physical Properties	Unit	Test Method	PCM4988
Thermal Conductivity	W/m·K ²	ASTM D5470	2.0
Thermal Impedance @ no shim (Typical Value)	°C -cm /W	ASTM D5470 Modified	0.14
Specific Gravity		ASTM D374	2.2
Viscosity (Typical Value)	Pa·s @2 1/s, 25°C	RehometerHON	NA ¹⁴
Volume Resistivity	Ω·cm	ASTM D257-700	8.2x10
Thickness Range	mm		0.20-1.00

STORAGE CONDITION

Refer to product label.

THERMAL IMPEDANCE POST RELIABILITY

(No shim @ 40psi)

End of Line 0.14 °C-cm /W

Temperature Cycle "B" 0.10 °C-cm /W

(-55°C to +125°C , 1000 cycles)

Product Use

Clamping pressure and temperature are suggested to achieve a minimum bond line thickness of the thermal interface material, typically less than 1.5 mil (0.038mm) for best thermal performance.

More Honeywell TIMs

PCM4988 is part of Honeywell's TIM Solutions family of phase change materials. Whatever the thermal challenge, we offer a TIM product that provides just the right characteristics for your application. Find out more about:

PTM7000 Series PTM6000 Series
PTM5000 Series PCM45F Series
Hybrid Series LTM Series By

visiting: electronicmaterials.com



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PTM7958

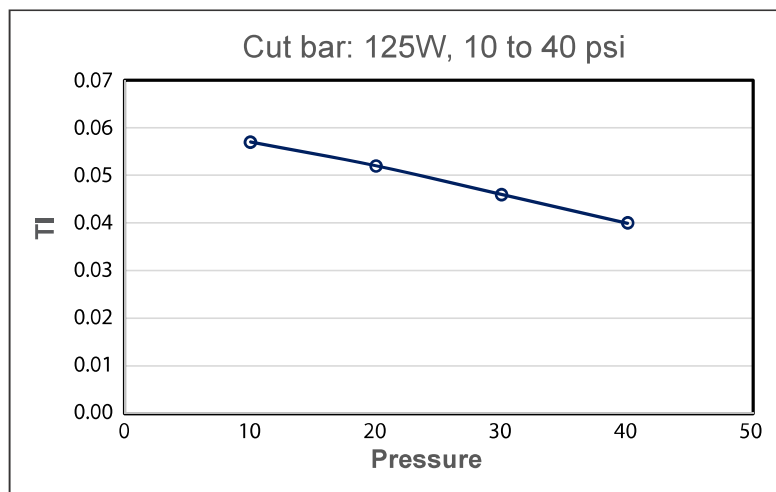
High Thermal Conductivity Phase Change Material

Honeywell's PTM7958, a super highly thermally conductive Phase Change Material (PCM) in both pad and paste formats, is designed to minimize thermal resistance at interfaces, maintain excellent performance through reliability testing, and provide scalable application at a competitive cost.

Based on a novel polymer PCM system, this material exhibits excellent interface wettability during typical operating temperature ranges, resulting in extremely low surface contact resistance.

A proprietary material provides superior reliability (pass 150°C baking 1000 hours, T/C-B 1000 cycles) and maintains low thermal impedance ($<0.04^{\circ}\text{C}\cdot\text{cm}^2/\text{W}$ @ no shim), making the PTM7958 desirable for high performance integrated circuit devices.

PTM7958 Thermal Impedance ($^{\circ}\text{C}\cdot\text{cm}^2/\text{W}$) vs. Pressure (psi)



PTM7958 is ideal for high performance IT/Enterprise computing applications.

Honeywell TIMs Serve Multiple Applications



Automotive & Power



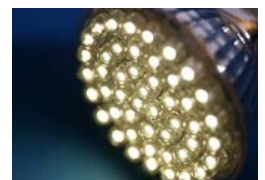
IT/Enterprise



Telecomm



Consumer Electronics



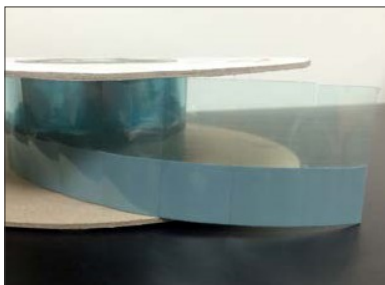
High-Brightness LED

FEATURES & BENEFITS

- High performance filler and polymer technology
- Highly conductive filler loading to optimize performance
- Superior handling and reworkability
- Superior reliable thermal performance
- Available in both pad and paste formats
- Phase change at 45°C

PTM7958 Technical Information

Physical Properties	Unit	Test Method	PTM7958	PTM7958-SP
Thermal Conductivity	W/m·K	ASTM D5470	8.5	8.5
Thermal Impedance @ no shim	°C·cm ² /W	ASTM D5470 Modified	0.04	0.04
Specific Gravity	-	ASTM D374	2.8	2.5
Viscosity	Pas @ 2 10 ¹ /s, 25 °C	Rheometer HON	NA	21
Volume Resistivity	Ω·cm	ASTM D257-700	2.1x10 ¹⁴	2.1x10 ¹⁴
Thickness Range	mm		0.21	NA



PTM7958 pad format. It is also available in paste/printable format.

STORAGE CONDITION

Refer to product label.

THERMAL IMPEDANCE POST RELIABILITY (ASTM E1461)

End of Line	0.04 °C·cm ² /W
Bake 150 °C, 1000 h	0.04 °C·cm ² /W
Double 85, 1000h	0.04 °C·cm ² /W
Temperature Cycling "B" (-55 °C to +125 °C, 1000 cycles)	0.045 °C·cm ² /W

Product Use

Clamping pressure and temperature are suggested to achieve a minimum bond line thickness of the thermal interface material, typically less than 1.5 mil (0.038mm) for best performance. The material must go through the phase change temperature to exhibit entitlement performance.

More Honeywell PCM

PTM7958 is part of Honeywell's TIM Solutions family of phase change materials. Whatever the thermal challenge, we offer a TIM product that provides just the right characteristics for your application. Find out more about:

PTM7000 Series PTM6000 Series
PTM5000 Series PCM45F Series

LTM Series

By visiting: electronicmaterials.com



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DS.0318Rev1
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品 名： 高分子复合材料
 型 号： BSW-TB010
 规 格： T=0.035~0.2mm

 ←石墨粉或纳米碳涂层，含量≥50%，厚度0.01mm

 ←纯铜，厚度客制化，一般0.025mm~0.2mm

 ←低热阻双面胶，建议使用0.01mm厚度以下，尽量降低热阻

 ←离型膜或离型纸

测试项目	测试数据	测试标准
厚度	0.035mm~0.2mm	ASTM D347
密度	8.8g/cm ³	ASTM D792
硬度	>4B	Wolff Wilborn-三菱 uni
工作温度	- 45~200℃	EN344
体积电阻	1×10 ⁹ Ω*cm	ASTD C611
阻燃等级	V0	UL94
垂直热扩散导热系数	260W/m.k	ASTM D5470
平面热扩散导热系数	700W/m.k	ASTM D5470
有效降温区间	6~15℃	---
环保测试	Pass	IEC 62321: 2008
耐冲击	>40kg/cm ²	GB/T14152-2001
耐弯曲	<1mm	GB/T6742-2007
耐摩擦	120psi 1000rotation	ISO1518: 1992
击穿	Pass	3000VAC/60Hz
	Pass	1000 DC

声明：

- 1、此资料只作为材料参数，不代表适用于所有环境，使用前请先行测试并确定其适用性；
- 2、上述资料变更，恕不另行通知；
- 3、存放本产品时，存放场所应避免阳光直射，并防潮，避免与易挥发的物品存放与同处。
- 4、以上所有数据由 昆山博思威电子有限公司 实验室提供，该实验室有最终解释权。

Http: www.bswdz.com

E-mail: kefuxinxiang@qq.com

品 名： 高分子复合材料
 型 号： BSW-TB010B
 规 格： T=0.035~0.2mm

 ←石墨粉或纳米碳涂层，含量≥50%，厚度0.01mm

 ←纯铝，厚度客制化，一般0.025mm~0.2mm

 ←低热阻双面胶，建议使用0.01mm厚度以下，尽量降低热阻

 ←离型膜或离型纸

测试项目	测试数据	测试标准
厚度	0.035mm~0.2mm	ASTM D347
密度	2.6g/cm ³	ASTM D792
涂层硬度	>4B	Wolff Wilborn-三菱 uni
工作温度	- 45~200℃	EN344
体积电阻	1×10 ⁹ Ω*cm	ASTD C611
阻燃等级	V0	UL94
垂直热扩散导热系数	铝碳120W/m.k	ASTM D5470
平面热扩散导热系数	铝碳300W/m.k	ASTM D5470
有效降温区间	6~15℃	---
环保测试	Pass	IEC 62321: 2008
耐冲击	铝碳>18kg/cm ²	GB/T14152-2001
耐弯曲	<1mm	GB/T6742-2007
耐摩擦	120psi 1000rotation	ISO1518: 1992
击穿	Pass	3000VAC/60Hz
	Pass	1000 DC

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- 4、以上所有数据由 昆山博思威电子有限公司 实验室提供，该实验室有最终解释权。

合作客户

Cooperative customers

