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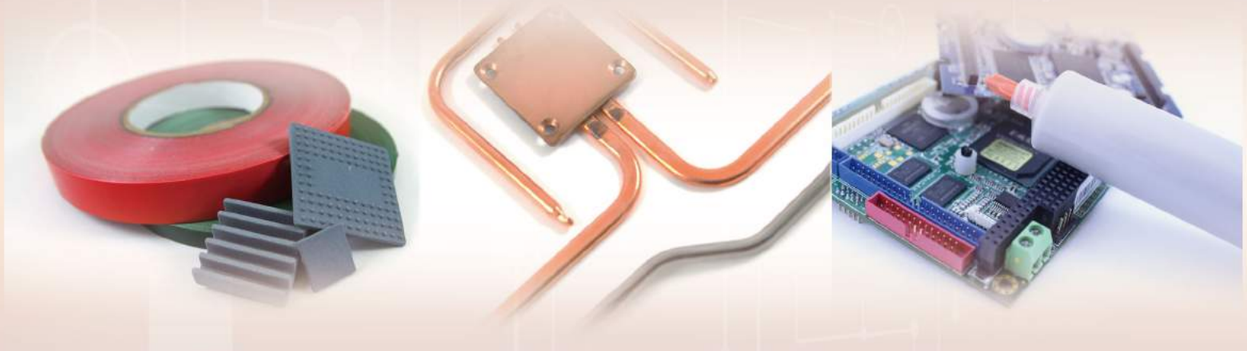
- No MOQ
- High quality
- Competitive pricing
- Rapid sample building
- Very short L/T
- High thermal conductivity
- Excellent reliability
- A track record of satisfied customers



t-global TECHNOLOGY 高柏科技 T-Global Technology Co.,Ltd

— 快速送樣服務　高品質　客製化服務　高導熱效能 —

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Lutterworth, Leicestershire, LE17 4QU
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Tel:+44(0)116 279 6899

Version15 20170004

全方位解熱方案
Total Thermal Solution

- 導熱矽膠片 Thermal Conductive Pads
- 導熱膠帶 Thermal Tape
- 高導熱石墨片 Artificial Graphite Sheets
- 導熱封裝膠 Potting Compound
- 陶瓷、金屬散熱片 Ceramic, Metal Heat Sink
- 非矽型導熱片 Non-silicone Thermal Conductive Pads
- 相變化材料 Phase Change Material

目錄 CONTENTS

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研究開發 Research & Development
研究開発

高柏科技除了既有的產品追求在製程上的改善之外，並要以不斷的持續開發新產品為目標。除了憑藉公司多年經驗技術外，高柏科技也與在台灣各大技術研發中心及教學院所合作，如此才能更快速的開發出優良的新產品。

T-Global not only develops and researches the products by ourselves, but also cooperates with national research institution and universities in Taiwan. Thus T-Global can develop new products quickly.
There is no best in T-Global. We keep on pursuing the better. T-Global goes forward the target.

今のプロセスの向上し、よく改善するはもちろん、新製品の研究開発を目指して続けています。弊社は数年以来の研究開発の経験を重ねるのみならず、台湾における有名な技術研究センターや教育研究所と協力して、優れた新製品を効率の良い開発していきます。

公司介紹 Introductions

会社紹介

高柏科技專注於導熱介面材料之研發及銷售，並本著快速服務客戶及彈性生產的理念，以滿足客戶對導熱介面材料的各種需求。 高柏科技累積多年的研發成果及銷售經驗，使得高柏科技的產品已得到全球兩千多家客戶的肯定並持續指定使用中。

高柏科技已取得ISO9001,ISO14001及IECQ認證，產品符合RoHS、REACH及UL規範。在未來自許成為客戶們於熱工程領域中的優良合作夥伴，並不斷的精進現有的研發技術，以成為業界的佼佼者為目標。

T-Global Technology Co., Ltd. dedicates to develop, manufacture and markets our own thermal interface materials. We keep providing rapid sample building, flexible production and excellent products to our customers. We have lot of experience to serve our customers in thermal engineering field.

T-Global has gotten ISO9001, ISO14001, and IECQ Certification, and RoHS, REACH, and UL Certification.

T-Global expects to be a good partner and supplier in thermal interface materials industry

「T-グローバルテクノロジー有限会社」は主に熱対策に関する製品を研究、生産、販売を行っております。弊社は常にお客様から様々なご要望にお応えしながら、迅速なサービスご提供しており、お客様によって、違う熱対策の需要を満足させます。長年にわたり蓄積する研究成果や販売経験などが弊社に支えられ、今国内外数多くの会社から信頼されており、製品も使われています。

なお、弊社はもうISO9001,ISO14001及びIECQに認証されており、製品もRoHS、REACH、ULなどの国際認証を取得しています。今後放熱対策における分野では、お客様に対する有力なサポーターになれ、そして研究技術を積んで、世界中お客様から業界の中に価値がある企業になれる目標に目指し、努力していきます。

環保政策 Environment Policy

環境への取り組み

高柏科技所生產的導熱介面材料，皆符合綠色環保及RoHS、REACH等歐盟相關綠色環保規範。
並在日常生活中要求員工執行相關業務活動時，也需致力於節能、減少二氧化碳。
高柏科技在持續追求不斷成長之際，也以致力愛護大地的地球公民為自我期許，期許能為地球環保盡一份心力。

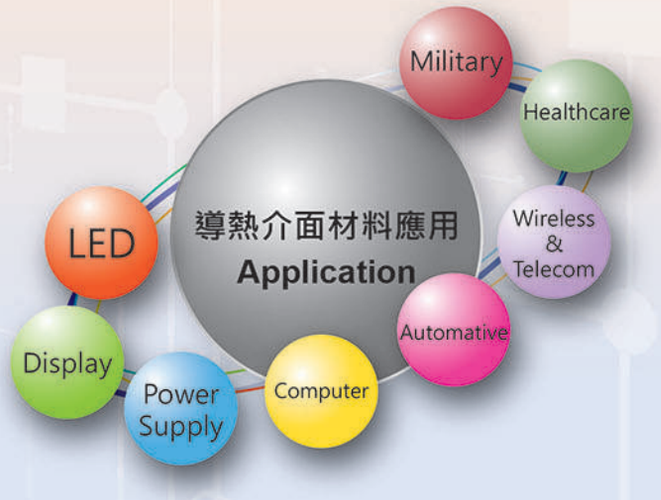
All products from T-Global are RoHS and REACH compliant. Additionally all employees of T-Global follow a green code of practice.

1. More efficiently use of energy.
2. Reduced carbon footprint
3. Development on low environmental impact materials

T-Global takes CSR (Corporate Social Responsibility) seriously.

「T-グローバルテクノロジー有限会社」は環境保護のため、製品と材料とも欧州連合が制定されたRoHS、REACHなどの標準に合わせることにしています。日常生活の中に、社員たちが生活にも事業活動にも、エネルギーを節約し、二酸化炭素の排出量をできるだけ減少することを呼びかけます。また社員及び関係者には一人一人が社会の中でも環境意識を高めるように努力していきます。

弊社は自己成長を努力しつつけるだけではなく、大切な地球環境保護も義務に向け、積極的に力込めて貢献を行っていき、地球の一員として地球環境を守る事を目指し、自分の責任として取り、一生懸命に努力していきます。



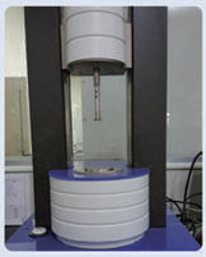
測試儀器 Test Equipments


常溫保持力試驗機


硬度測量計


推拉力試驗機


D5470 導熱熱阻分析儀


黏度計


有害物質分析儀


冷熱衝擊試驗機


膠帶高溫保持力試驗機


高溫真空試驗機

T68 人造石墨
Artificial Graphite Sheet

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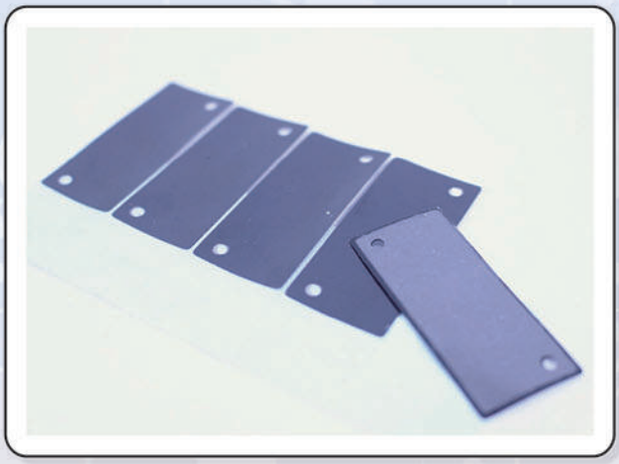


產品特性 Features

Ultra high thermal conductivity, electrical conductivity and EMI shielding effect 具有高效導熱性、導電性及EMI遮蔽效果
Flexible, and bendable 具可撓性，可彎曲
Ultra thin; Low mass; Environmental friendly 超薄; 重量輕; 無毒環保
Low thermal resistance 低熱阻

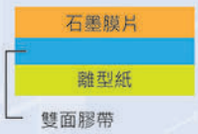
產品應用端 Applications

Mobile phone, Laptops, Set-top box, LED back light, PDP/LCD/OLED screens, Ultra bright LED, Digital camera, Digital video camera, NIC, Projector, Handheld device etc.

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Properties		T68	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	XY axis	1500	W / mK	±100	AC calorimeter
	Z axis	5	W / mK	±0.5	Laser flash
Thickness 厚度		25	μm	-	Micrometer
Color 顏色		Black黑	-	-	Visual目視
Flame Rating 耐燃等級		V-0	-	-	UL-94
Thermal Diffusivity 熱擴散率		8.5	cm^2 / S	±0.5	AC calorimeter
Density 密度		2.1	g /cm^3	±0.1	Archimedes law
Electrical Conductivity 導電率		>13000	S / cm	-	JIS K7194
Bending Test 彎曲測試		10000	times	-	-
Working Temperature 工作溫度		-40~400	°C	-	AC calorimeter
Heat Capacity (SHC) 熱容量		0.895	J / g-K	-	-

類型	T68	T68A	T68AP	T68APF
加工方式	不加工	底部貼合絕緣 雙面膠帶10um/30um	1. 上層貼合標準PET膠帶10um/30um 2. 底部貼合絕緣雙面膠帶10um/30um	1. 上層貼合標準PET膠帶10um/30um 2. 底部貼合絕緣雙面膠帶10um/30um 3. 有封邊
結構				
特徵	■發揮石墨之熱傳導性、柔軟性 ■低熱電阻 ■最高可在400°C ■導電性	■單面具有絕緣黏合性 ■標準品，黏力強 ■保證黏貼在箱體，底盤上的強黏力 ■耐電壓1KV	■產品表面，黏合面均具有絕緣性 ■耐電壓 ■PET膠帶1KV ■雙面膠帶1KV	■產品表面，黏合面均具有絕緣性 ■耐電壓 ■PET膠帶1KV ■雙面膠帶1KV
耐熱溫度	400°C	100°C	100°C	100°C
總厚度	25um	35um/55um	45um/85um	45um/85um

T62 天然石墨
Natural Graphite Sheet

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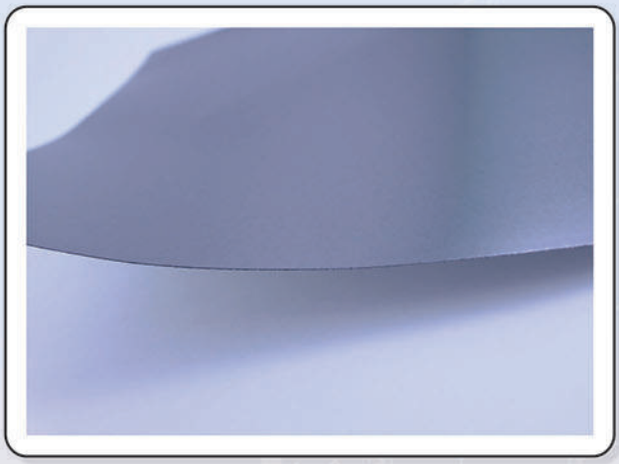


產品特性 Features

Ultra high thermal conductivity超高導熱效能
Easy to assemble容易施工
Low mass decreases space 體積輕薄，減低安裝空間
EMI reduction 降低電磁干擾

產品應用端 Applications

Mobile phone, Laptops, Set-top box, LED back light, PDP/LCD/OLED screens, Ultra bright LED, Digital camera, Digital video camera, NIC, Projector, Handheld device etc.

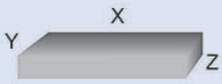
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Physical Properties	T62	T62-1	T62-2	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	X-Y, 400	X-Y, 400	X-Y, 400	W/m.K	-	AC calorimeter
	Z, 20	Z, 15	Z, 5	W/m.K	±10%	Laser flash
Thickness 厚度	0.13	0.16	0.2	mm	±0.03	Micrometer
	0.0051	0.0063	0.0079	inch	-	-
Color 顏色	Black黑			-	-	Visual目視
Type 類型	Graphite	Graphite + Adhesive	PET + Graphite + Adhesive	-	-	-
Density 密度	1.5	1.5~1.8		g/cm3	±0.05	-
Graphite Contained 石墨含量	>98	>98	>98	%	-	-
Working Temperature 工作溫度	-30~100	-30~100		°C	-	-

Need samples 樣品需求

Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切
Other thickness is available, please contact sales specialist. 尚有其它厚度,請洽業務專員



X Y Z
T62 - 20 - 15 - 0.13 - 1A, 20
1 2 3 4

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

TG-P10050/TG-P10090
石墨烯均溫片 Graphene

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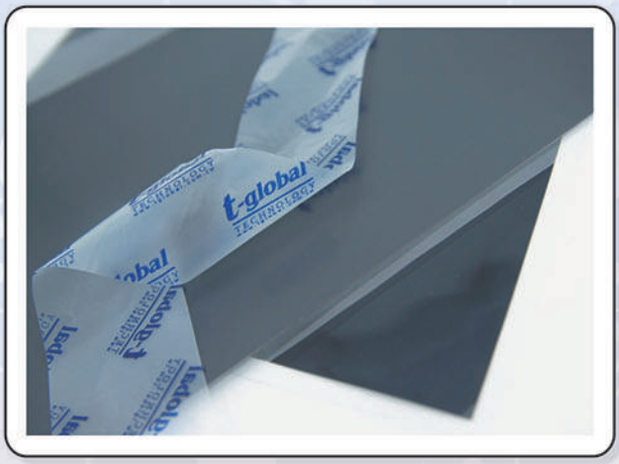


產品特性 Features

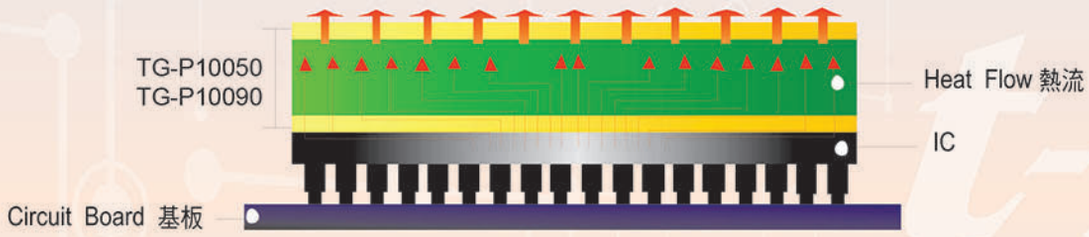
Ultra thin; Low mass 超薄; 重量輕
Available for unventilated design 適用於不通風環境
No dusting issue 無剝離及掉粉問題

產品應用端 Applications

Mobile phone, Laptops, Set-top box, LED back light, PDP/LCD/OLED screens, Ultra bright LED, Digital camera, Digital video camera, NIC, Projector, Handheld device etc.

產品物性 Properties

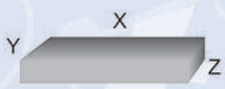
RoHS Compliant 符合RoHS規範



Properties	TG-P10050	TG-P10090	Unit	Tolerance	Test Method
Thermal Conductivity (In-Plane/ XY axis) XY軸-熱傳導係數	1500~1800		W / mK		Comparative Test 對比測試
Thermal Conductivity(Through-Plane/ Z axis) Z軸-熱傳導係數	12		W / mK		ASTM D5470
Total thickness 材料總厚度	50	90	μm	-	Meter厚薄規
Copper Foil Thickness 銅箔厚度	35	75	μm	-	Meter厚薄規
Coating thickness 塗層厚度	15	15	μm	-	Meter厚薄規
Vertical Resistivity X軸-電阻	2.57		Ohm-Inch^2	-	QJ1523-1988
Parallel Resistivity Z軸-電阻	0.66		Ohm-Inch^2	-	QJ1523-1988
Cross-Cut Tape Test 百格測試	4B		-	-	ASTM D3359B
Pencil Hardness Test 鉛筆硬度測試	2H		-	-	ASTM D3363
Solvent Resistance (Alcohol) 耐溶劑測試(酒精)	Pass(5 times)		-	-	ASTM D5402
Rubber Abrasive Test橡皮耐磨測試	Pass(150 times)		-	-	ASTM D7835
High Temperature & Humidity Test高溫高濕測試	Pass(500hrs)		(85°C/85%RH)	-	IEC-60068-2-78
Thermal Shock Test 熱衝擊測試	Pass(500cycles)		(-20~80°C)	-	IEC-60068-2-14
Temperature Range of Utility 適用溫度範圍	-20~120		°C	-	ISO 16750-4

Need samples?樣品需求?

Pre-cut for different shapes可依需求沖型裁切



X Y Z
TG-P10050 - 20 - 15 - 0.05, 20
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

TG-V833/TG-V838 相變化材料
Thermal Phase Change Materials

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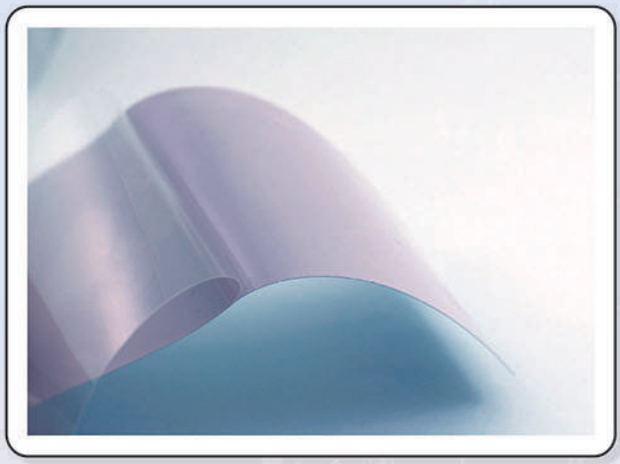


產品特性 Features

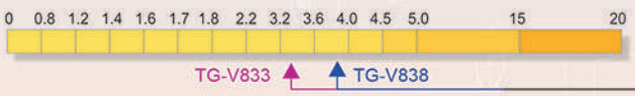
With the good flow ability over phase change temperature, surface irregularities can be well filled藉由材料熱溶後的良好流動性，完整填充表面不平整縫隙
Low thermal impedance 低熱阻

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, DVD Applications, Hand-set applications etc.

產品物性 Properties

RoHS Compliant 符合RoHS規範



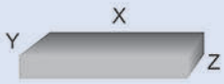
TG-V833 Thermal Conductivity 導熱係數:3.3 W/m.K
TG-V838 Thermal Conductivity 導熱係數:3.8 W/m.K

Testing sample thickness: 0.13mm

Properties	TG-V833	TG-V838	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	3.3	3.8	W / mK	±10%	ASTM D5470
Thickness厚度	0.13/0.2/0.3	0.13/0.2/0.3	mm	-	ASTM D374
	0.005/0.008/0.0118	0.005/0.008/0.0118	inch	-	ASTM D374
Color 顏色	Gray灰	Gray灰	-	-	Visual目視
Phase Transition Temperature軟化溫度	50	50	°C	-	-
Breakdown voltage(Vac)擊穿電壓	1	1	KV	-	ASTM D149
Density密度	3.4	2.5	g / cm³	±0.3	ASTM D792
Working Temperature工作溫度	-40~125	-40~125	°C	-	-
Volume Resistance體積阻抗	$3.0x10^{11}$	$3.0x10^{10}$	Ohm-m	-	ASTM D257
Thermal Impedance@50psi熱阻抗	0.013	0.013	°C-cm²/W	-	Modified ASTM D5470
Dielectric Constant介電常數	13.3	13.3	@1KHz	-	ASTM D412

Need samples?樣品需求?

Pre-cut for different shapes可依需求沖型裁切



TG-V833- 13 -13 - 0.13 , 20
(X Y Z; 1 2 3)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

TG2030 超軟導熱矽膠
Ultra Soft Thermal Pad

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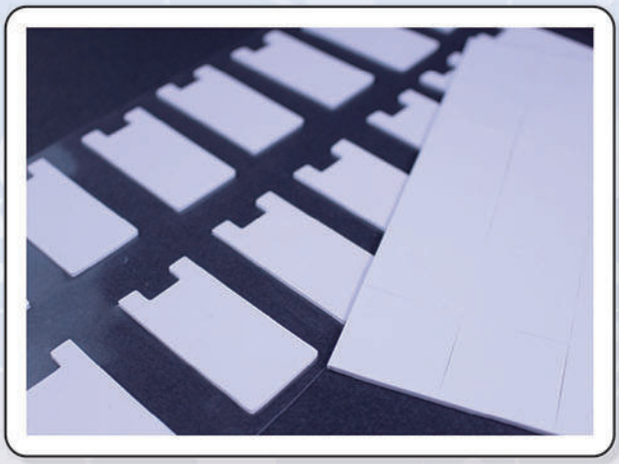


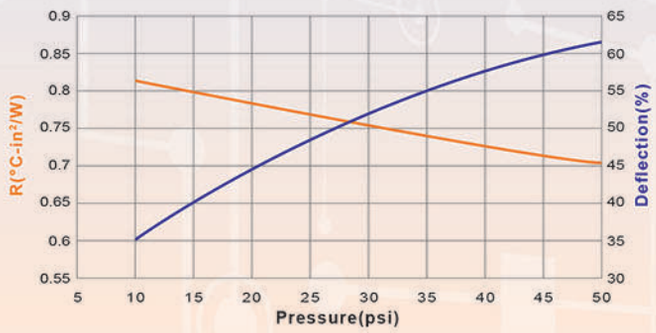
產品特性 Features

Low oil-bleed 低出油量
Ultra soft and high compressibility 超軟與高壓縮性
Electrical insulation 絕緣耐電壓高
As a buffer in electronics 幫助機構之緩衝

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.82	35
30	0.76	53
50	0.71	62

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 2.0 W/mK

Hardness 軟硬度 : 30 (Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TG2030 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TG2030 provides good compliance and softness.

Properties	TG2030	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2	W / mK	±0.2	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	White白	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	16	KV / mm	±1.6	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.4	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	>10^{10}	Ohm-m	-	ASTM D257
Elongation 延展率	300	%	-	ASTM D412
Tensile Strength 抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	30	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

TG2030 - 20 - 15 - 3 , 20
X Y Z
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

TG4040 超軟導熱矽膠
Ultra Soft Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

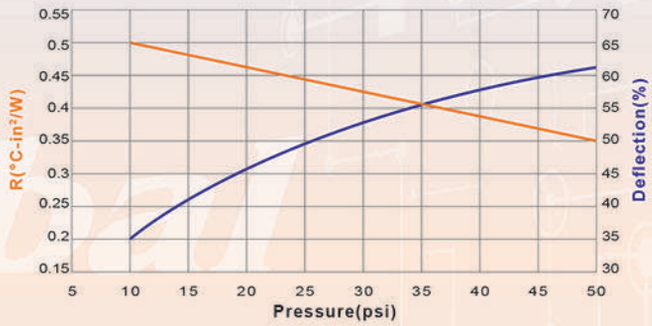
產品特性 Features

Solve the problems with thermal conduction, electrical insulation, and buffering
High thermal conduction, low thermal resistance, and high compressibility
Increase the performance of electronics
有效解決關於導熱、絕緣與緩衝等問題
具超高導熱效能、低熱阻、高絕緣性與極高壓縮性
提升元件的工作效能

產品應用端 Applications

Best for high power applications 極適用於高功率電子產品
Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



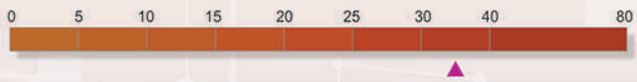
Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.5	36
30	0.43	54
50	0.35	61

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 4.0 W/mK

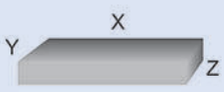
Hardness 軟硬度 : 35 (Shore 00)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TG4040 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TG4040 provides good compliance and softness.

Properties	TG4040	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	4	W / mK	±0.4	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Blue藍	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	15	KV / mm	±1.5	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.8	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	100	%	-	ASTM D412
Tensile Strength 抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	35	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切



X Y Z
TG4040 - 20 - 15 - 3 , 20
1 2 3

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

TG4040LC 超軟導熱矽膠
Ultra Soft Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

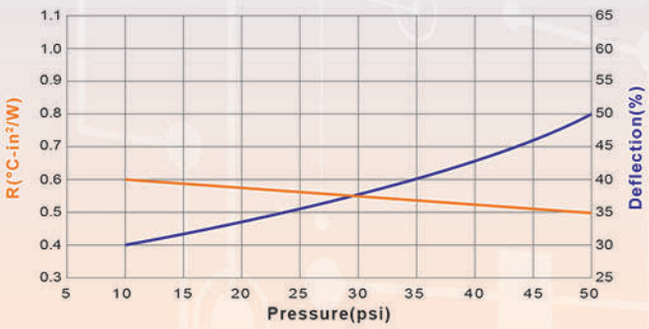
產品特性 Features

Excellent thermal conductivity 良好的導熱性
Great elasticity and elongation 良好回彈性及延展性
Natural tack on one side; attached film on the other side
單面自黏另一面不黏;另一面為光滑面
Great reworkability 方便重工作業
Electrical insulation 高電氣絕緣

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

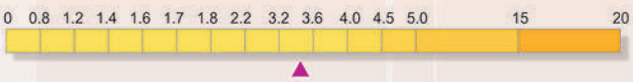


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.6	30
30	0.55	38
50	0.5	50

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 3.5 W/mK

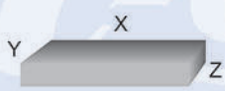


Hardness 軟硬度 : 35(Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TG4040LC provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TG4040LC provides good compliance and softness.

Properties	TG4040LC	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	3.5	W / mK	±0.35	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	-
Color 顏色	Blue藍	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	15	KV/mm	±0.4	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.6	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	100	%	-	ASTM D412
Tensile Strength 抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness(silicone side) 硬度(矽膠面)	35	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切



TG4040LC- 20 - 15 - 0.5 , 20
(X Y Z; 1, 2, 3)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

TG4040F 超軟導熱矽膠
Ultra Soft Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

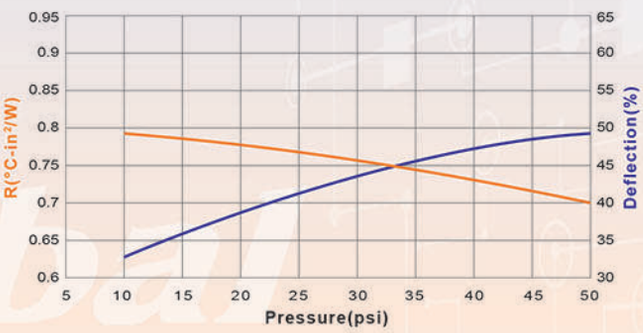
產品特性 Features

Very good thermal conductivity 良好的導熱性
Compliancy, high compressibility 高壓縮性
Fiberglass on one side 表面附著玻纖
Non deforming; high tensile strength 不易變形，高抗拉強度
Electrical insulation 絕緣耐電壓高

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



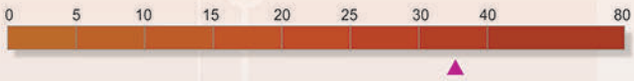
Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.79	33
30	0.76	44
50	0.7	49

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 3.5 W/mK

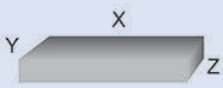
Hardness 軟硬度 : 35 (Shore 00)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TG4040F provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TG4040F provides good compliance and softness.

Properties	TG4040F	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	3.5	W / mK	±0.35	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Blue藍	-	-	Visual目視
Reinforcement Carrier補強材	Fiberglass mesh	-	-	-
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	15	KV / mm	±1.5	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.8	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	100	%	-	ASTM D412
Tensile Strength 抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness(silicone side) 硬度(矽膠面)	35	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切



X Y Z
TG4040F - 20 - 15 - 3 , 20
1 2 3

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

TG6050 超軟導熱矽膠
Ultra Soft Thermal Pad

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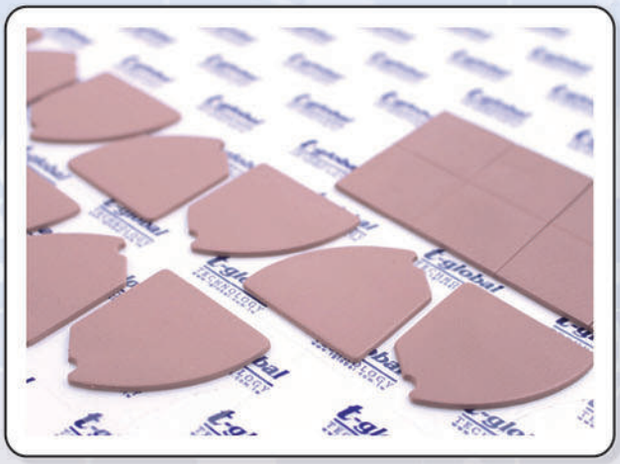


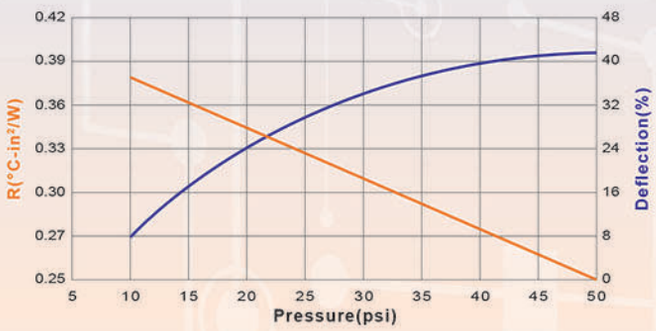
產品特性 Features

Ultra soft and high thermal conductivity 超柔軟又兼具高導熱
Natural tack 具自黏性
High compressibility and compliancy 高壓縮性
Electrical insulation 絕緣耐電壓高

產品應用端 Applications

Best for high power applications 極適用於高效能產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

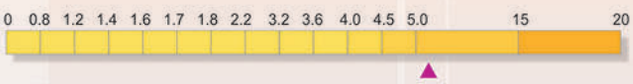


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.38	8
30	0.31	35
50	0.25	43

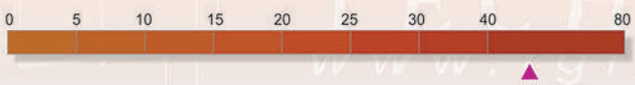
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 6.0 W/mK



Hardness 軟硬度: 60 (Shore 00)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TG6050 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TG6050 provides good compliance and softness.

Properties	TG6050	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	6	W / mK	±0.6	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Red紅	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	13	KV / mm	±1.3	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	3.2	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	50	%	-	ASTM D412
Tensile Strength 抗拉強度	0.5	Kgf / m²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	60	Shore 00	±15	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

TG6050 - 20 - 15 - 3 , 20
(1) (2) (X Y Z) (3)

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

TGX 超軟導熱矽膠
Ultra Soft Thermal Pad

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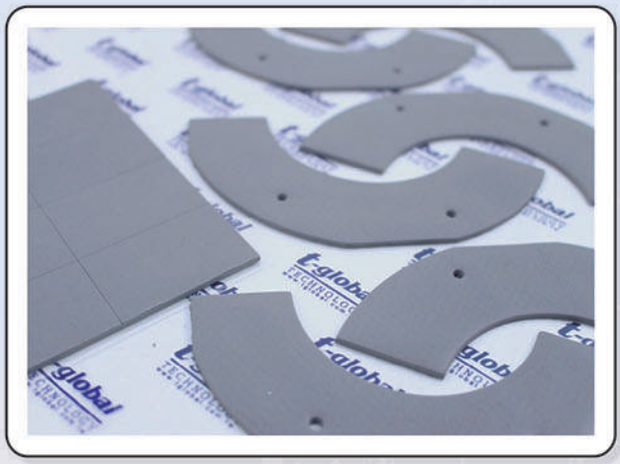


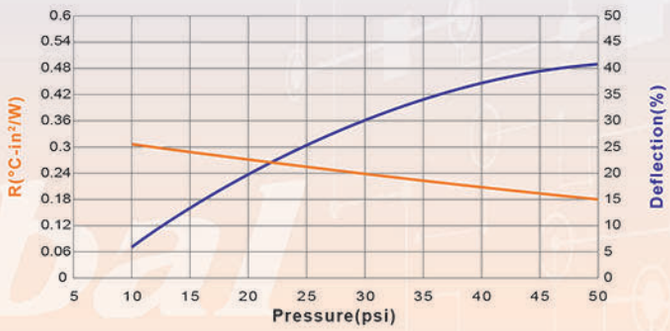
產品特性 Features

High-end product with thermal conductivity of 12 W / mK
導熱係數達到12 W / mK的高階產品
Compliancy, high compressibility 高壓縮性
Low hardness (Shore 00 65) 低硬度
Electrical insulation 絕緣耐電壓高

產品應用端 Applications

Usually used for industrial computers, military products
工業電腦,軍設備廠商常使用到的產品
Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.31	6
30	0.24	30
50	0.18	41

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

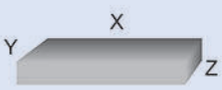
Thermal Conductivity 導熱係數 : 12.0 W/mK

Hardness 軟硬度 : 65 (Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, TGX provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. TGX provides good compliance and softness.

Properties	TGX	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	12	W / mK	±1.2	ASTM D5470
Thickness 厚度	0.5~2.0	mm	-	ASTM D374
	0.0197~0.0787	inch	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	12	KV / mm	±1.2	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	3.4	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-45~+200	°C	-	-
Volume Resistance 體積阻抗	>10¹⁰	Ohm-m	-	ASTM D257
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	65	Shore 00	±15	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

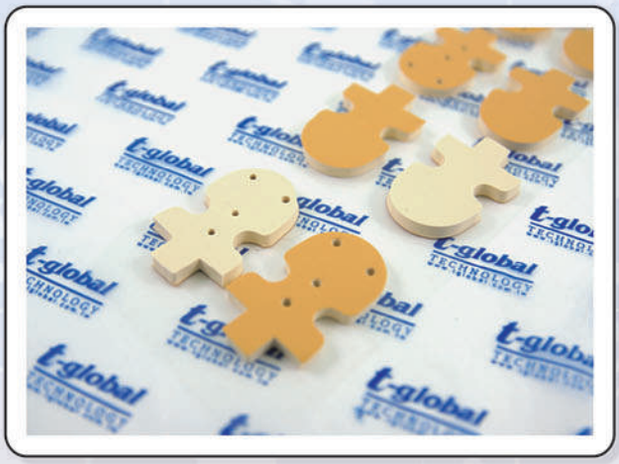


X Y Z
TGX - 20 - 15 - 2 , 20
1 2 3

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

L37-3 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



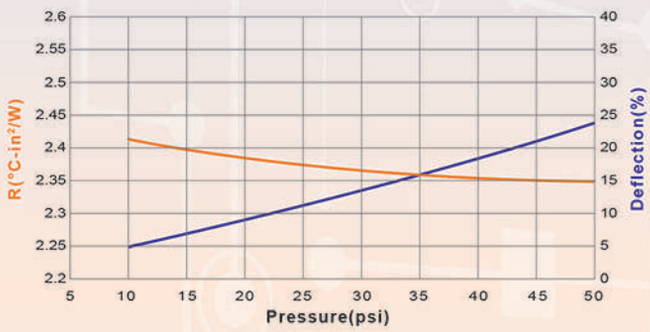
產品特性 Features

Base materials are silicone with fiberglass
主基材為導熱矽膠加上導熱玻纖
One side with natural tack and the other side with smooth
一面有自黏性一面表面光滑
surface Won't be deformed when being pulled 不易拉伸變形
High dielectric breakdown voltage 耐電壓高

產品應用端 Applications

Best for outdoor LED, electronics in LCD TV, and power supply
適用於光電產業的戶外LED照明及LCD TV的機構件和電源供應器
Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

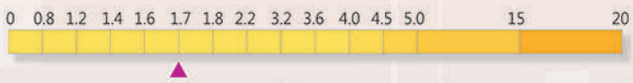


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	2.42	5
30	2.37	14
50	2.35	24

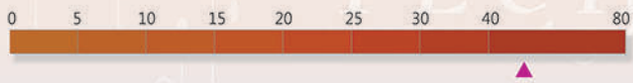
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 1.7 W/mK



Hardness 軟硬度 : 55 (Shore 00)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-3 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-3 provides good compliance and softness.

Properties	L37-3	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.7	W / mK	±0.17	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~20	mm	-	ASTM D374
	0.0118~0.787	inch	-	ASTM D374
Color 顏色	Yellow黃	-	-	Visual目視
Reinforcement Carrier補強材	Fiberglass mesh	-	-	-
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	10	KV / mm	±0.1	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.17	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-40~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{11}$	Ohm-m	-	ASTM D257
Tensile Strength 抗拉強度	66.4	Kgf / m²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness(silicone side) 硬度(矽膠面)	55	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切

X Y Z
L37-3 - 20 - 15 - 3 - 1A , 20
1 2 3 4

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

L37-3F 導熱矽膠
Thermal Pad

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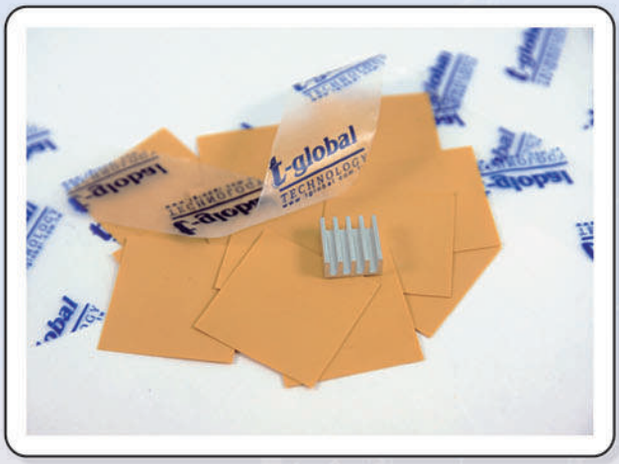


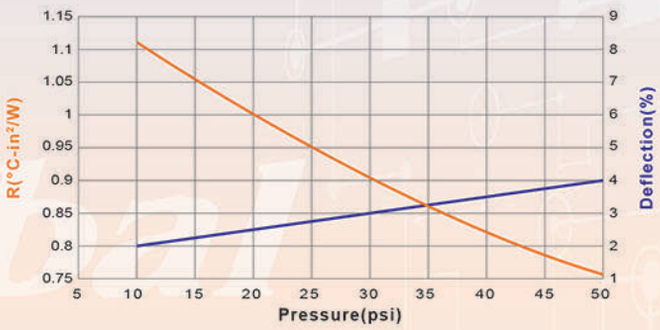
產品特性 Features

Made from silicone, thermal conductive particles, fiberglass
由矽膠、導熱聚合物及玻璃纖維組成
Low elongation 低延展率、不易變形
Electrical insulation 高絕緣性
Easy to assemble 操作性佳

產品應用端 Applications

High voltage application 適合高壓輸出之電子裝置及散熱片間
Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.11	2
30	0.91	3
50	0.76	4

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

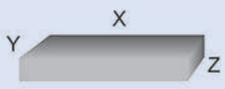
Thermal Conductivity 導熱係數: 1.4 W/mK

Hardness 軟硬度: 90 (Shore A)

Testing sample thickness: 0.3mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-3F provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-3F provides good compliance and softness.

Properties	L37-3F	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.4	W / mK	±0.14	ASTM D5470
Thickness厚度 (the thickness can be ordered)	0.25/0.3/0.45	mm	-	ASTM D374
	0.0098/0.0118/0.0177	inch	-	ASTM D374
Color 顏色	Yellow黃	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	3/4/5	KV	±0.3/±0.4/±0.5	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-40~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{11}$	Ohm-m	-	ASTM D257
Elongation延展率	5	%	-	ASTM D412
Tensile Strength抗拉強度	150	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	90	Shore A	±3	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切
Roll type is available 可製成捲材



X Y Z
L37-3F - 20 - 15 -0.3- 1A , 20
1 2 3 4

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

L37-3S 導熱矽膠
Thermal Pad

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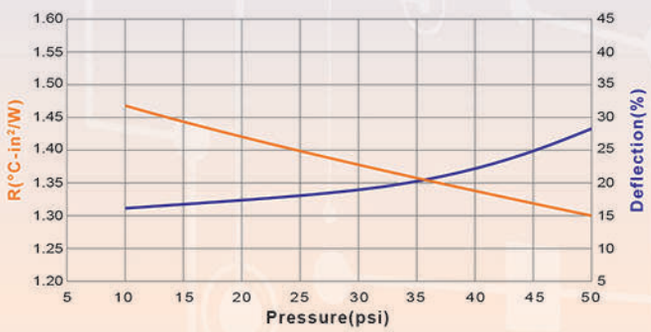
產品特性 Features

Great reworkability 重工性佳
High softness and compressibility 柔軟及回彈性好
Natural tack 具自黏性
Easy to assemble 容易施工
Shock & vibration absorber 減震緩衝

產品應用端 Applications

Low middle range applications中低階產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

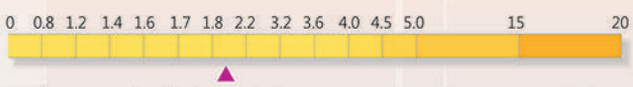


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.47	16
30	1.38	19
50	1.3	28

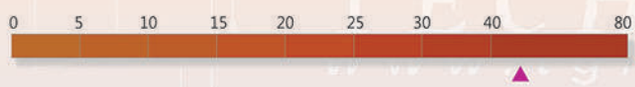
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 1.95 W/mK



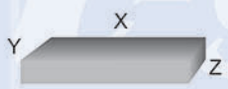
Hardness 軟硬度 : 55 (Shore 00)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-3S provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-3S provides good compliance and softness.

Properties	L37-3S	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.95	W / mK	±0.19	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~20	mm	-	ASTM D374
	0.0118~0.787	inch	-	ASTM D374
Color 顏色	Yellow黃	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	13	KV / mm	±1.3	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	2.21	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-40~+200	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	350	%	-	ASTM D412
Tensile Strength 抗拉強度	8	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	55	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切



L37-3S - 20 - 15 - 3 - 1A , 20
(1: L37-3S, 2: 20 - 15 - 3, 3: 1A, 4: 20)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

L37-3L 導熱矽膠
Thermal Pad

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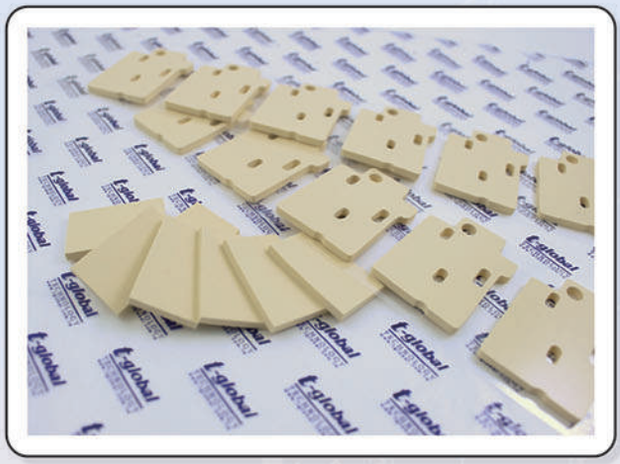


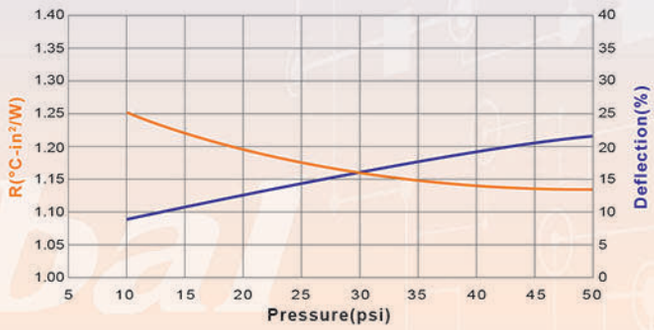
產品特性 Features

Very good thermal conductivity 良好的導熱性
High insulation strength 高絕緣強度
Low contact thermal impedance 低接觸熱阻
High dielectric breakdown voltage 高耐電壓
Low oil-bleed 低出油量

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

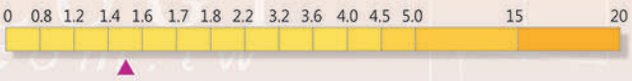


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.25	9
30	1.16	17
50	1.14	22

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數: 1.5 W/mK

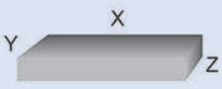


Hardness 軟硬度: 15 (Shore A)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-3L provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-3L provides good compliance and softness.

Properties	L37-3L	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.5	W / mK	±0.15	ASTM D5470
Thickness 厚度	0.5~10	mm	-	ASTM D374
	0.0197~0.3937	inch	-	ASTM D374
Color 顏色	Yellow黃	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	15	KV / mm	±1.5	ASTM D149
Weight Loss重量損失	<0.2	%	-	ASTM E595
Density 密度	2.4	g / cm³	±0.24	ASTM D792
Working Temperature工作溫度	-45~+200	°C	-	-
Volume Resistance體積阻抗	>10¹¹	Ohm-m	-	ASTM D257
Elongation延展率	20	%	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	15	Shore A	±5	ASTM D2240

Need samples?樣品需求? Available to apply adhesive 可依需求背膠 Pre-cut for different shapes可依需求沖型裁切



X Y Z
L37-3L - 20 - 15 - 3 - 1A , 20
1 2 3 4

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

L37-5 導熱矽膠
Thermal Pad

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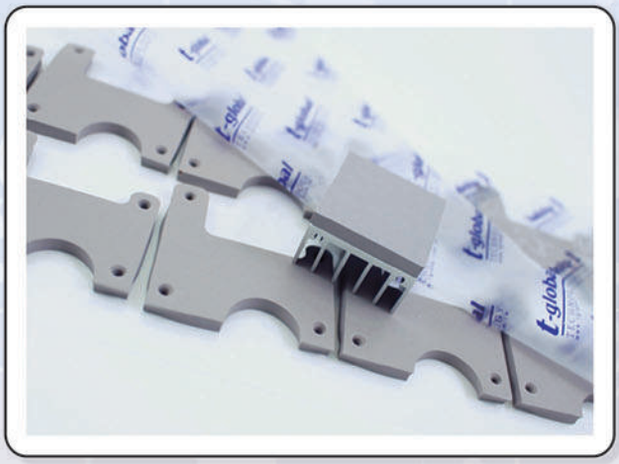


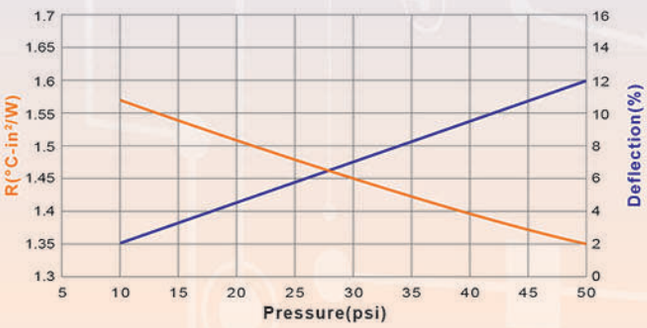
產品特性 Features

Flexible, and difficult to be deformed 回彈性好,不易拉伸變形
Easy to be handled作業性佳
Electrical insulation 絕緣
Great thermal conductivity (1.6 W / mK)良好導熱係數
Thickness can reach 20mm 厚度可達20mm

產品應用端 Applications

Best for low power applications 適用於低功率產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

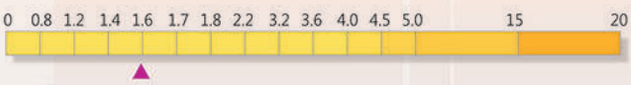


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.57	2
30	1.45	7
50	1.35	12

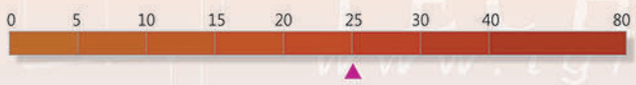
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 1.6 W/mK



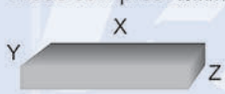
Hardness 軟硬度 : 25 (Shore A)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-5 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-5 provides good compliance and softness.

Properties	L37-5	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.6	W / mK	±0.16	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~20	mm	-	ASTM D374
	0.0118~0.787	inch	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	10	KV / mm	±1	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.38	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{12}$	Ohm-m	-	ASTM D257
Elongation延展率	300	%	-	ASTM D412
Tensile Strength抗拉強度	12	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	25	Shore A	±5	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切



L37-5 - 20 - 15 - 3 - 0A , 20
(1: X, 2: Y, 3: Z)

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

L37-5S 導熱矽膠
Thermal Pad

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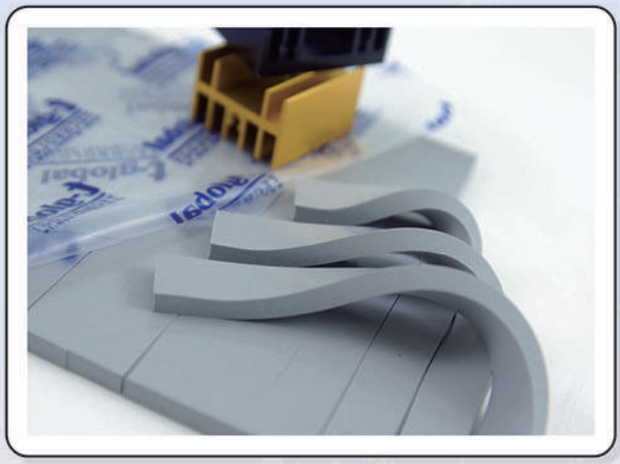


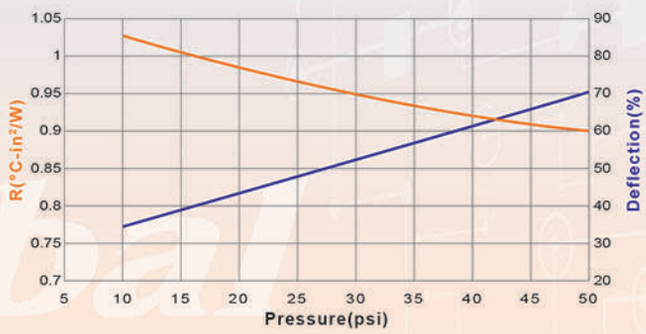
產品特性 Features

Best for filling the gap 適用於間隙填補
Compliancy, high compressibility 高壓縮性
Ultra soft, low hardness (Shore 00) 超低硬度非常柔軟
Lower pressure to heated components or PCB
可緩衝降低其對發熱元件或PCB的壓力

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

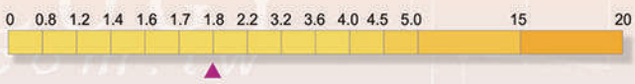


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.03	35
30	0.95	52
50	0.9	70

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 1.8 W/mK

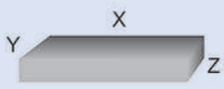


Hardness 軟硬度 : 25 (Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, L37-5S provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. L37-5S provides good compliance and softness.

Properties	L37-5S	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.8	W / mK	±0.18	ASTM D5470
Thickness 厚度	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	16	KV / mm	±1.6	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.4	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-45~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation延展率	300	%	-	ASTM D412
Tensile Strength抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	25	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切



X Y Z
L37-5S - 20 - 15 - 3 - 0A , 20
1 2 3 4

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

H48-2 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

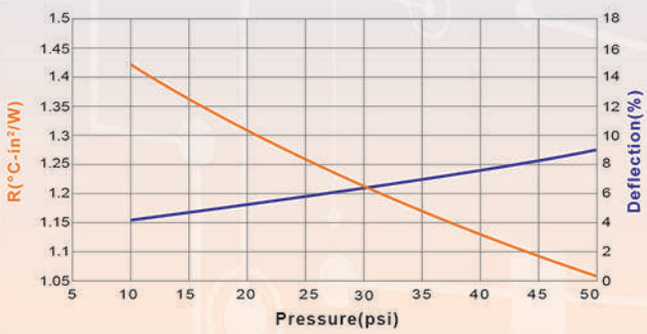
產品特性 Features

Good thermal conductivity 良好導熱性
Low oil-bleed 低出油量
Moderate hardness 軟硬度適中
Good insulator 電氣絕緣
Shock & vibration absorber 可做為振動衝擊吸收體

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



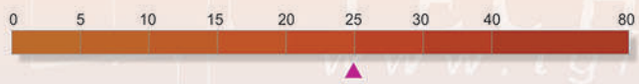
Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.43	4
30	1.21	7
50	1.06	9

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 2.2 W/mK

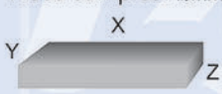
Hardness 軟硬度 : 25 (Shore A)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, H48-2 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher.H48-2 provides good compliance and softness.

Properties	H48-2	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2.2	W / mK	±0.22	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~20	mm	-	ASTM D374
	0.0118~0.787	inch	-	ASTM D374
Color 顏色	Dark red深紅	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	5	KV / mm	±0.5	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.43	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{12}$	Ohm-m	-	ASTM D257
Elongation延展率	282	%	-	ASTM D412
Tensile Strength抗拉強度	7	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	25	Shore A	±5	ASTM D2240

Need samples?樣品需求? Available to apply adhesive 可依需求背膠 Pre-cut for different shapes可依需求沖型裁切

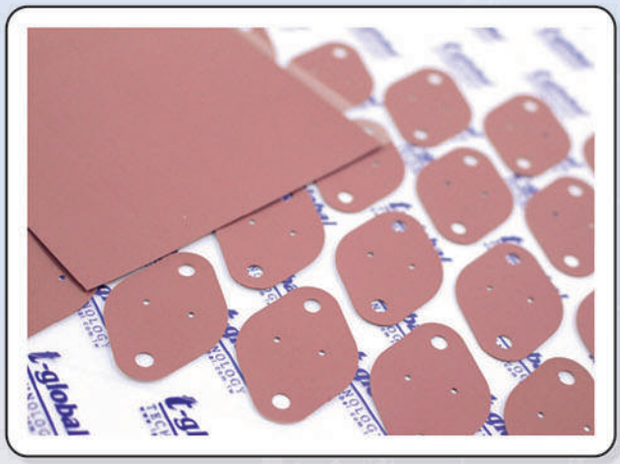


H48-2 - 20 - 15 - 3 - 1A , 20
(X Y Z; 1, 2, 3, 4)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

H48-2K 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



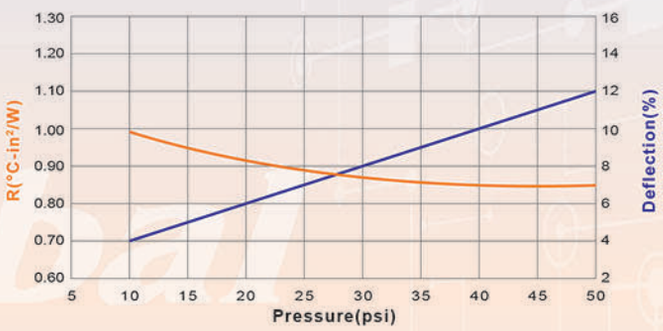
產品特性 Features

Very low thickness available 可供應極薄的厚度
Low contact thermal impedance 低接觸熱阻
Low-oil bleed 低出油量
High dielectric breakdown voltage 高耐電壓

產品應用端 Applications

Suitable for light electronics 適用於輕薄體積的電子產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

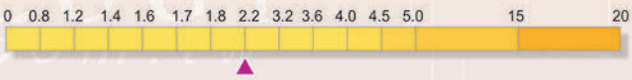


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.99	4
30	0.88	8
50	0.85	12

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 2.2 W/mK



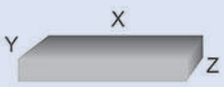
Hardness 軟硬度 : 85 (Shore A)

Testing sample thickness: 0.3mm
In "Thermal resistance VS. Pressure VS. Deflection" chart, H48-2K provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. H48-2K provides good compliance and softness.

Properties	H48-2K	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2.2	W / mK	±0.2	ASTM D5470
Thickness 厚度	0.1/0.2/0.3	mm	-	ASTM D374
Color 顏色	Dark Red深紅	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	1.2/2.5/3.5	KV	±0.1/±0.2/±0.3	ASTM D149
Weight Loss重量損失	<0.5	%	-	ASTM E595
Density 密度	2.4	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-45~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{12}$	Ohm-m	-	ASTM D257
Elongation延展率	50	%	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	85	Shore A	±5	ASTM D2240

Need samples?樣品需求?

Pre-cut for different shapes可依需求沖型裁切

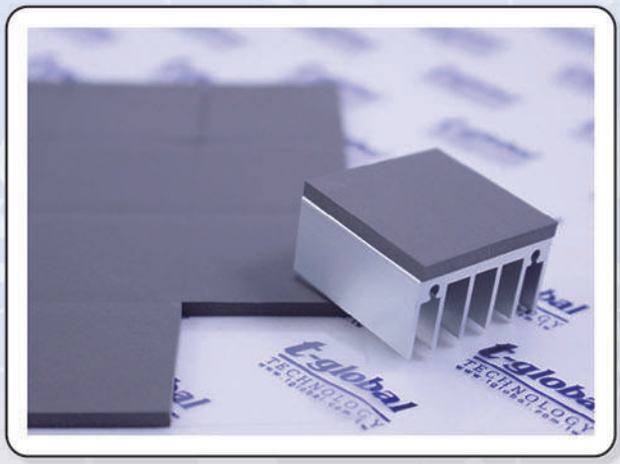


X Y Z
H48-2K - 20 - 15 - 0.1, 20
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

H48-6 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



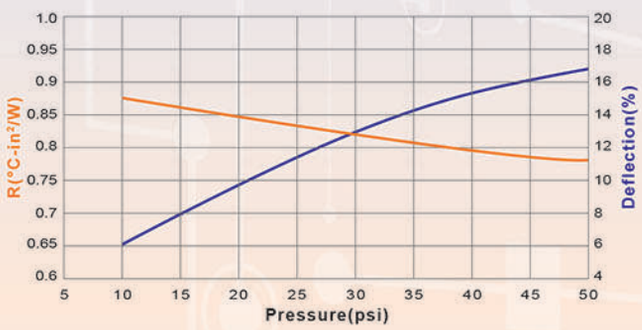
產品特性 Features

Very good thermal conductivity 良好的導熱性
Soft and high compressibility 柔軟及高壓縮性
Natural tack 具自黏性
Easy to assemble 容易施工

產品應用端 Applications

Products of server, IPC 適用於SERVER、IPC產業之產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

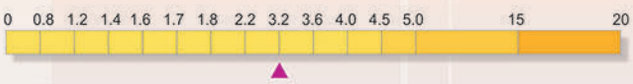


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.88	6
30	0.82	13
50	0.78	17

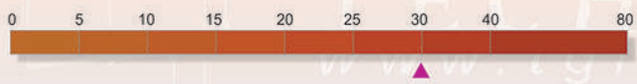
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 3.2W/mK



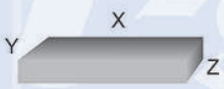
Hardness 軟硬度 : 30 (Shore A)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, H48-6 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher.H48-6 provides good compliance and softness.

Properties	H48-6	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	3.2	W / mK	±0.3	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~20	mm	-	ASTM D374
	0.0118~0.787	inch	-	ASTM D374
Color 顏色	Dark Gray 深灰	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	2	KV / mm	±0.2	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.42	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{11}$	Ohm-m	-	ASTM D257
Elongation延展率	130	%	-	ASTM D412
Tensile Strength抗拉強度	8	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones 單片狀	-	-	-
Hardness硬度	30	Shore A	±10	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切



H48-6 - 20 - 15 - 3 - 1A, 20
(1: H48-6, 2: X Y Z, 3: 1A, 4: 20)

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

H48-6G 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

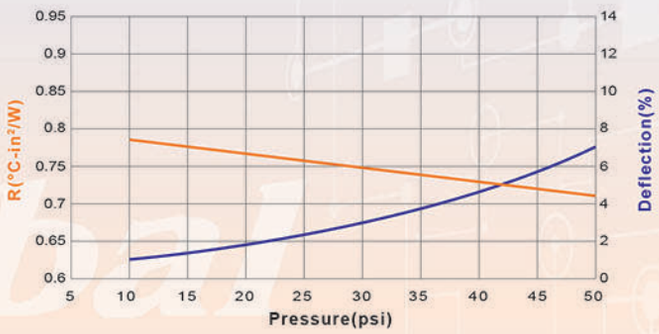
產品特性 Features

Very good thermal conductivity 良好的導熱性
Natural tack 具自黏性
Easy to assemble 容易施工
Very good insulator 高電氣絕緣

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



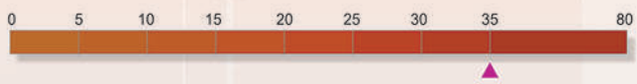
Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.78	1
30	0.75	3
50	0.71	7

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 6 W/mK

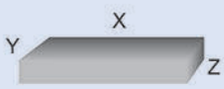
Hardness 軟硬度 : 35 (Shore A)



Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, H48-6G provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher.H48-6G provides good compliance and softness.

Properties	H48-6G	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	6	W / mK	±0.6	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.3~5.0	mm	-	ASTM D374
	0.0118~0.1969	inch	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	13	KV / mm	±0.13	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	3.09	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{11}$	Ohm-m	-	ASTM D257
Elongation延展率	60	%	-	ASTM D412
Tensile Strength抗拉強度	6	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	35	Shore A	±5	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切

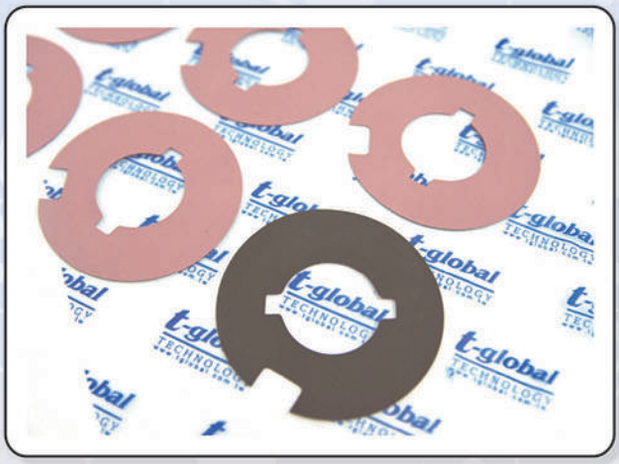


H48-6G - 20 - 15 - 3 - 1A , 20
(1: H48-6G; 2: X Y Z = 20 - 15 - 3; 3: 1A; 4: 20)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

H48-6S 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



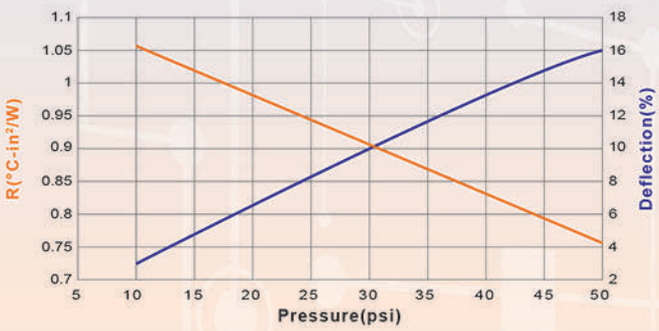
產品特性 Features

Very good thermal conductivity 良好的導熱性
High breakdown voltage高耐電壓
Natural tack 具自黏性
Easy to assemble 容易施工

產品應用端 Applications

Best for TO-220 適用於TO-220
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.06	3
30	0.91	10
50	0.76	16

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

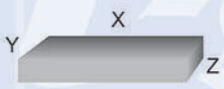
Thermal Conductivity 導熱係數 : 1.8 W/mK

Hardness 軟硬度 : 90 (Shore A)

Testing sample thickness: 0.23mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, H48-6S provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher.H48-6S provides good compliance and softness.

Properties	H48-6S	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.8	W / mK	±0.18	ASTM D5470
Thickness 厚度	0.23	mm	-	ASTM D374
	0.0091	inch	-	ASTM D374
Color 顏色	Dark Red深紅	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage耐電壓	7	KV	±0.7	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	1.95	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~+200	°C	-	-
Volume Resistance體積阻抗	$>10^{12}$	Ohm-m	-	ASTM D257
Elongation延展率	0.2	%	-	ASTM D412
Tensile Strength抗拉強度	66.5	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	90	Shore A	±5	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

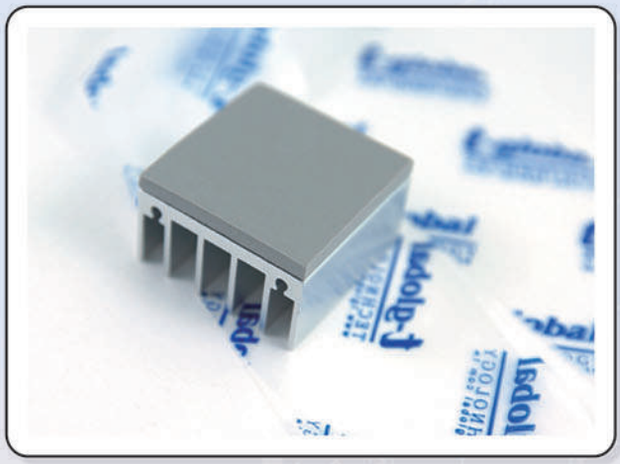


X Y Z
H48-6S - 20 - 15 - 0.23 , 20
1 2 3

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

PC93非矽型導熱材料
Non-Silicone Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



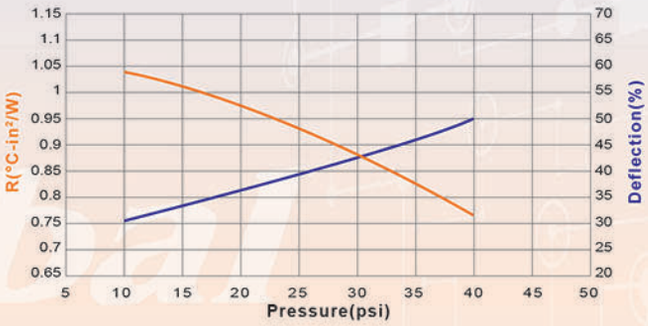
產品特性 Features

Non siloxane and oil-bleed 無低分子矽氧烷及矽油揮發
Ultra soft and great elongation 材料柔軟且延展性好
Very low thermal impedance 低熱阻
Electrical insulation 電氣絕緣
Great thermal conductivity 良好導熱性

產品應用端 Applications

Applications that require no silicone怕碰到矽油問題的產品
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.04	31
20	0.98	42
40	0.76	50

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

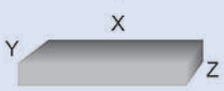
Thermal Conductivity 導熱係數 : 2 W/mK

Hardness 軟硬度 : 65 (Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, PC93 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher. PC93 provides good compliance and softness.

Properties	PC93	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2	W / mK	±0.2	ASTM D5470
Thickness 厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Flame Rating 耐燃等級	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓	10	KV / mm	±1	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.1	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-30~+125	°C	-	-
Volume Resistance 體積阻抗	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	350	%	-	ASTM D412
Tensile Strength 抗拉強度	1	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	-	-	-
Hardness 硬度	65	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

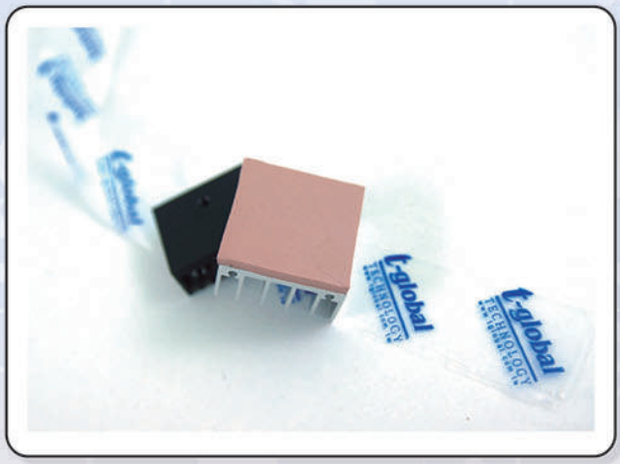


X Y Z
PC93 - 20 - 15 - 3, 20
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

PC94非矽型導熱材料
Non-Silicone Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw



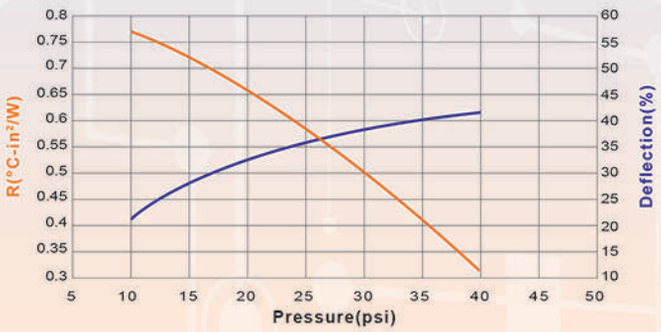
產品特性 Features

Non siloxane and oil-bleed 無低分子矽氧烷及矽油的揮發
Ultra soft and great elongation 材料柔軟且延展性好
Very low thermal impedance 低熱阻
Electrical insulation 電氣絕緣
Great thermal conductivity 良好導熱性

產品應用端 Applications

Best for hard disk 適用於硬碟
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

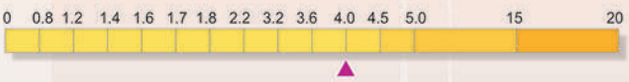


Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.77	22
20	0.66	33
40	0.32	42

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數 : 4W/mK



Hardness 軟硬度 : 60(Shore 00)

Testing sample thickness: 1.0mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, PC94 provides low thermal impedance. The pressure gets higher, the thermal pedancegets lower, and deflection percentage gets higher. PC94 provides good compliance and softness.

Properties	PC94	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	4	W / mK	±0.4	ASTM D5470
Thickness厚度 (the thickness can be ordered) (可依客戶所需厚度生產)	0.5~5.0	mm	-	ASTM D374
	0.0197~0.1969	inch	-	ASTM D374
Color 顏色	Red紅	-	-	Visual目視
Flame Rating耐燃等級	V-0	-	-	UL94
Dielectric Breakdown Voltage耐電壓	10	KV / mm	-	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	2.5	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-30~+125	°C	-	-
Volume Resistance體積阻抗	>10^{10}	Ohm-m	-	ASTM D257
Elongation延展率	100	%	-	ASTM D412
Tensile Strength抗拉強度	2	Kgf / cm²	-	ASTM D412
Standard Shape標準形狀	Sheet ones單片狀	-	-	-
Hardness硬度	60	Shore 00	±10	ASTM D2240

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切

X Y Z
PC94 - 20 - 15 - 3, 20
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

Li98 導熱膠帶
Thermal Tape

t-global TECHNOLOGY
www.tglobal.com.tw

產品特性 Features

Good adhesion 良好的黏著性 (Acrylic PSA)
Great reliability 高可靠度
Cost effective with great performance C/P值高
Easy to assemble 加工容易
Customization services for different industries依需求客製化

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

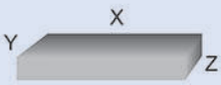
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Li98 Thermal Conductivity 導熱係數: 0.95 W/m.K
Li98T Thermal Conductivity 導熱係數: 1.2 W/m.K
Li98C Thermal Conductivity 導熱係數: 1.8 W/m.K
Li98CN Thermal Conductivity 導熱係數: 2 W/m.K

Properties	Li 98		Li 98T	Li 98C		Li 98CN	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	0.95	0.95	1.2	1.8	1.8	2	W / mK	±10%	ASTM D5470
Thickness 厚度	0.15	0.25	0.11	0.15	0.25	0.18	mm	-	ASTM D374
Color 顏色	White白						-	-	Visual目視
reinforcement Carrier補強材	Fiberglass mesh		PET	Fiberglass mesh		-	-	-	-
Continuous Working Temperature工作溫度	-30~120	-30~120	-60~120	-30~120	-30~120	-30~120	°C	-	-
Short time use temperature (30sec)短期耐溫	200	200	200	200	200	200	°C	-	-
Density密度	1.85	1.85	1.6	1.8	1.8	1.8	g / cm³	-	ASTM D792
Tensile strength抗拉強度	200	400	400	200	400	-	psi	-	ASTM D412
Glass Transition temperature玻璃轉化溫度	-30	-30	-	-27	-27	-30	°C	-	-
Initial Tack初期黏性	10	8	10	14	12	15	cm	-	PSTC-6
Lap Shear Strength剪切強度	61	61	60	55	50	55	N / cm²	-	ASTM D1002
Die Shear Strength@25°C晶片抗切強度	120	120	105	109	100	100	N / cm²	-	-
Die Shear Strength@80°C晶片抗切強度	69	69	60	68	68	55	N / cm²	-	-
Holding Power 1000g@25°Cusing 1 in²保持力	>10000	>10000	>10000	>10000	>10000	>10000	min	-	PSTC-7
Holding Power 1000g@80°Cusing 1 in²保持力	>10000	>10000	>10000	>10000	>10000	>10000	min	-	PSTC-7
90° Peeling Strength (aluminum)剝離強度	>10	>12	>12	>6	>8	>8	N / in	-	ASTM D3330
Dielectric Breakdown Voltage (Vac)耐電壓	2	3	4	2	3	5	KV	±10%	ASTM D149
Dielectric Breakdown Voltage (Vdc)耐電壓	3	4	5	3	4	6	KV	±10%	ASTM D149
Thermal Impedance@10psi熱阻抗	0.96	1.3	0.65	0.66	0.92	0.75	°C-in² / W	-	ASTM D5470
Thermal Impedance@30psi熱阻抗	0.78	1.08	0.62	0.62	0.88	0.7	°C-in² / W	-	ASTM D5470
Thermal Impedance@50psi熱阻抗	0.63	1.095	0.61	0.55	0.9	0.68	°C-in² / W	-	ASTM D5470

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切 Roll type is available可製成捲料



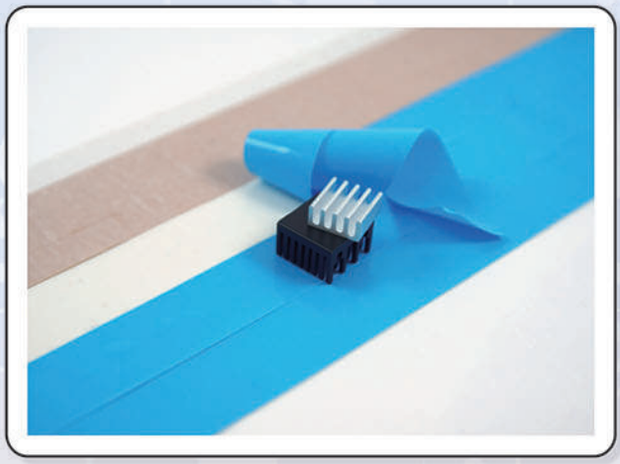
X Y Z
Li-98 - 20 - 15 - 0.15 , 20
1 2 3

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

T-global recommends a 6-months shelf life at maximum continuous storage temperature of 25 °C for maintenance of controlled adhesion to the liner.
建議保存於25°C以下之環境，並於6個月內使用完畢，以保持膠帶及離型紙具適當的黏合度

Liv2 / Li98P 導熱膠帶
Thermal Tape

t-global TECHNOLOGY
www.tglobal.com.tw



產品特性 Features

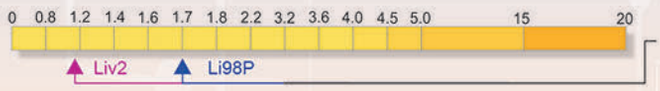
High voltage resistance 耐電壓高
Good adhesion 良好的黏著性 (Acrylic PSA)
Great reliability 高可靠度
Easy to assemble 加工容易
Customization services for different industries依需求客製化

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範



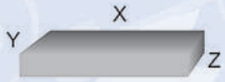
Liv2 Thermal Conductivity 導熱係數: 1.0 W/m.K
Li98P Thermal Conductivity 導熱係數: 1.7 W/m.K

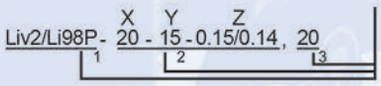
Properties	Liv2		Li98P		Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1	1	1.7	1.7	W / mK	±0.17	ASTM D5470
Thickness 厚度	0.15	0.25	0.125	0.14	mm	-	ASTM D374
Color 顏色	White白				-	-	Visual目視
reinforcement Carrier補強材	Fiberglass Mesh		Polyimide		-	-	-
Continuous Working Temperature工作溫度	-30~120	-30~120	-30~120	-30~120	°C	-	-
Short time Use Temperature(30sec)短期耐溫	180	180	250	250	°C	-	-
Density密度	1.85	1.85	1.3	1.2	g / cm³	-	ASTM D792
Tensile Strength抗拉強度	200	400	500	600	psi	-	ASTM D412
Glass Transition Temperature玻璃轉化溫度	-30	-30	-25	-25	°C	-	-
Initial Tack初期黏性	11	10	15	15	cm	-	PSTC-6
Lap Shear Strength剪切強度	60	60	63	62	N / cm²	-	ASTM D1002
Die Shear Strength @25°C晶片抗切強度	120	120	115	115	N / cm²	-	-
Die Shear Strength@80°C晶片抗切強度	69	69	66	64	N / cm²	-	-
Holding Power 1000g@25°C using 1 in²保持力	>10000	>10000	>10000	>10000	min	-	PSTC-7
Holding Power 1000g@80°C using 1 in²保持力	>10000	>10000	>10000	>10000	min	-	PSTC-7
90° Peeling Strength (aluminim)剝離強度	15	16	>10	>10	N / in	-	ASTM D3330
Dielectric Breakdown Voltage (Vac)耐電壓	2	3	4	5	KV	±10%	ASTM D149
Dielectric Breakdown Voltage (Vdc)耐電壓	3	4	5	6	KV	±10%	ASTM D149
Thermal Impedance@10psi熱阻抗	0.78	1.30	0.8	0.9	°C-in² / W	-	ASTM D5470
Thermal Impedance@30psi熱阻抗	0.72	1.15	0.77	0.83	°C-in² / W	-	ASTM D5470
Thermal Impedance@50psi熱阻抗	0.65	1.10	0.75	0.81	°C-in² / W	-	ASTM D5470
Flame Rating耐燃等級	V-0	V-0	V-0	V-0	-	-	UL94

Need samples?樣品需求?

Pre-cut for different shapes可依需求沖型裁切

Roll type is available可製成捲料





1. Choose the P/N
2. Fill into size: X,Y,Z
3. Fill the quantity you need

T-global recommends a 6-months shelf life at maximum continuous storage temperature of 25 °C for maintenance of controlled adhesion to the liner.
建議保存於25°C以下之環境，並於6個月內使用完畢，以保持膠帶及離型紙具適當的黏合度

Li2000 導熱膠帶
Thermal Tape

t-global TECHNOLOGY
www.tglobal.com.tw

產品特性 Features

Silicone PSA 以矽膠為基底
Good adhesive 良好的黏著性
Long time use temperature of 170°C 長時間耐溫高達170°C
UL compliant 通過UL認證
Electrical insulation高電氣絕緣

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

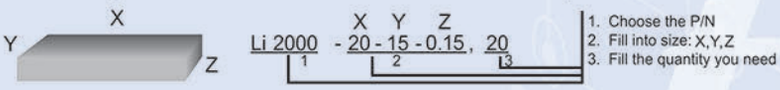
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Li2000 Thermal Conductivity 導熱係數: 1.2 W/m.K
Li2000A Thermal Conductivity 導熱係數 : 2 W/m.K

Properties	Li2000		Li2000A	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.2	1.2	2	W / mK	±0.12	ASTM D5470
Thickness 厚度	0.15	0.25	0.2	mm	-	ASTM D374
Color 顏色	White白			-	-	Visual目視
Reinforcement Carrier補強材	Fiberglass Mesh		-	-	-	-
Continuous Working Temperature工作溫度	-45~170	-45~170	-45~170	°C	-	-
Short time Use Temperature (30sec)短期耐溫	288	288	260	°C	-	-
Density密度	1.6	1.6	2.3	g / cm³	-	ASTM D792
Initial Tack初期黏性	10	10	>30	cm	-	PSTC-6
Lap Shear Strength剪切強度	74	76	35	N / cm²	-	D1002
Die Shear Strength @25°C 晶片抗切強度	113	126	60	N / cm²	-	-
Die Shear Strength @80°C晶片抗切強度	80	85	50	N / cm²	-	-
Die Shear Strength @150°C晶片抗切強度	30	35	40	N / cm²	-	-
Holding Power 1000g@25°C using 1 in²保持力	>40000	>40000	>40000	min	-	PSTC-7
Holding Power 1000g@80°C using 1 in²保持力	>40000	>40000	>40000	min	-	PSTC-7
Holding Power 1000g@150°C using 1in²保持力	>10000	>10000	>10000	min	-	PSTC-7
Tensile Strength抗拉強度	450	650	-	psi	-	ASTM D412
Dielectric Breakdown Voltage(Vac) 耐電壓	2	3	3.5	KV	±10%	ASTM D149
Dielectric Breakdown Voltage (Vdc)耐電壓	3	4	4.5	KV	±10%	ASTM D149
Volume Resistance體積阻抗	$>10^{12}$	$>10^{12}$	$>10^{9}$	Ohm-m	-	ASTM D257
Thermal Impedance@ 10psi熱阻抗	0.70	1.17	0.71	°C- in² / W	-	ASTM D5470
Thermal Impedance@ 30psi熱阻抗	0.68	1.13	0.55	°C-in² / W	-	ASTM D5470
Thermal Impedance@ 50psi熱阻抗	0.63	1.07	0.51	°C-in² / W	-	ASTM D5470
Flame Rating耐燃等級	V-0	V-0	V-0	-	-	UL 94

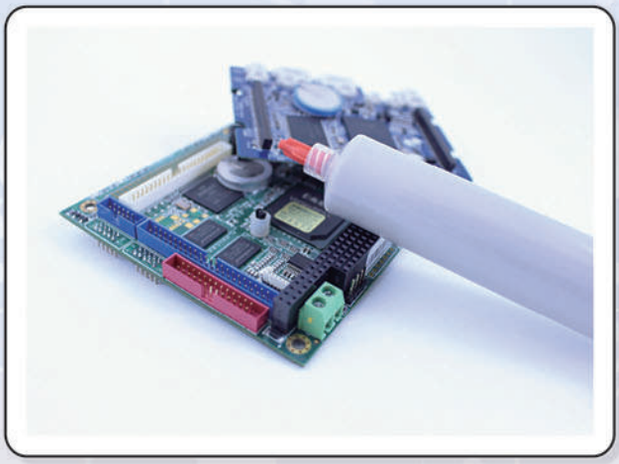
Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切



T-global recommends a 6-months shelf life at maximum continuous storage temperature of 25 °C for maintenance of controlled adhesion to the liner.
建議保存於25°C以下之環境，並於6個月內使用完畢，以保持膠帶及離型紙具適當的黏合度

TG-NSP25 非矽型導熱膠泥
Non-silicone Thermal Putty

t-global TECHNOLOGY
www.tglobal.com.tw



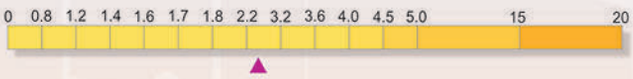
產品特性 Features

Silicone free thermal gel 無矽成分的導熱凝膠
Shapeable and compressible 可任意塑形與下壓
Low thermal resistance 擁有低熱阻
No fluidity 無液體流動現象之困擾
Best for north bridge IC 使用在IC北橋非常好的材料

產品應用端 Applications

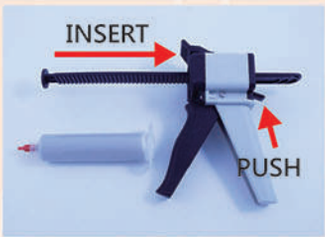
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

產品物性 Properties



Thermal Conductivity 導熱係數 : 2.5 W/mK

膠槍組裝說明 Operation Manual-Gel Gun



STEP1-Push the latch and insert the stick

STEP 2-Put the tube in and twist

STEP3-Close the cover

STEP4-Take off the plug

Reliability可靠度

Thermal Impedance	Initial	200 Hr	400 Hr	700 Hr	1000 Hr
125°C Aging	0.052	0.053	0.052	0.053	0.054
85°C/85% RH	0.052	0.051	0.050	0.051	0.052

Properties	TG-NSP25	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2.5	W / mK	±0.25	ASTM D5470
Color 顏色	Gray灰	-	-	Visual目視
Solid Content固體含量	100	%	-	-
Viscosity 0.5rpm黏性	5000	Pa·s	-	Brookfield
Density密度	2.6	g / cm³	-	ASTM D792
Low MW Siloxane (D3-10)低分子矽氧烷	0	ppm	-	GC/MS
Volume Resistivity體積電阻率	10^{14}	Ohm-m	-	ASTM D257
Working Temp.工作溫度	-50~150	°C	-	-
Standard package標準包裝	78g/143g/1KG	Tube/Pot	-	-

Need samples?樣品需求?

TG-NSP25 - 50 gram
1 2

1. Choose the P/N
2. Fill the quantity you need

TG4040/TG6060 PUTTY 導熱膠泥
Thermal Putty

t-global TECHNOLOGY
www.tglobal.com.tw

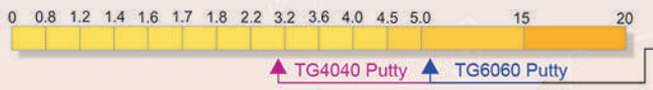
產品特性 Features

Silicone-type spacer with great long term reliability
長期可靠度優異的含矽型導熱膠
Lower thermal resistance than thermal pads
較導熱片低的接觸熱阻
Physical property between liquid and solid state
介於液態和固態的物理特性，擁有非常低的熱阻抗
Elimination of different gap between heat source and the heat sink 對應產品內高低不平的熱源
Can be applied with dispenser 可使用點膠機設備作業

產品應用端 Applications

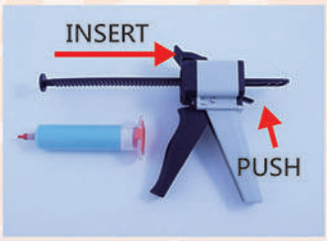
Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

產品物性 Properties



TG4040 Putty Thermal Conductivity 導熱係數 : 3.0 W/m.K
TG6060 Putty Thermal Conductivity 導熱係數 : 6.0 W/m.K

膠槍組裝說明 Operation Manual-Gel Gun



STEP1-Push the latch and insert the stick

STEP 2-Put the tube in and twist

STEP3-Close the cover

STEP4-Take off the plug

Reliability可靠度-Thermal Impendence 熱阻抗

	TG4040 Putty					TG6060 Putty				
Time	Initial	200 Hr	400 Hr	700 Hr	1000 Hr	Initial	200 Hr	400 Hr	700 Hr	1000 Hr
125°C Aging	0.06	0.061	0.062	0.061	0.062	0.054	0.053	0.052	0.054	0.054
160°C Agin	0.06	0.061	0.062	0.062	0.061	0.054	0.054	0.053	0.054	0.053
85°C/85% RH	0.06	0.061	0.062	0.061	0.062	0.054	0.053	0.052	0.054	0.053

Properties	TG4040 Putty	TG6060 Putty	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	3	6	W / mK	±0.3	ASTM D5470
Color 顏色	Blue藍	Blue藍	-	-	Visual目視
Solid Content固體含量	100(one-part)	100(one-part)	%	-	-
Viscosity 0.5rpm黏性	3,000	2,500~3,000	Pa·s	-	Brookfield
Density密度	3	3.3	g / cm³	-	ASTM D792
Volume Resistivity體積電阻率	10^{13}	10^{13}	Ohm-m	-	ASTM D257
Working Temp.工作溫度	-50~180	-50~180	°C	-	-
Standard package標準包裝	90g/165g/1KG	99g/181g/1KG	Tube / Pot	-	-

Need samples?樣品需求?

TG4040 PUTTY - 50 gram
1 2

1. Choose the P/N
2. Fill the quantity you need

A96 AB 導熱封膠
Epoxy Potting Compound

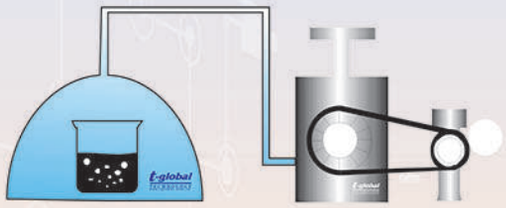
t-global TECHNOLOGY www.tglobal.com.tw

產品特性 Features

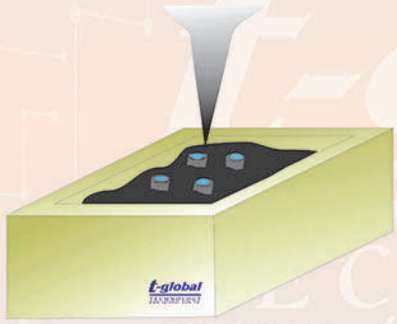
Epoxy based material with high hardness for support
環氧樹脂材料，高硬度可用於支撐
Protect components from any effect after curing
固化後保護電子元件防止受外界環境影響
Can be applied with dispenser 可用點膠機灌注
Room temperature or heating curing 室溫或加熱熟化
A:B = 13:1

1. MIX 混合

2. Vacuum out air 抽真空



3. Pour A96AB 灌注



產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

保存方式 Storage

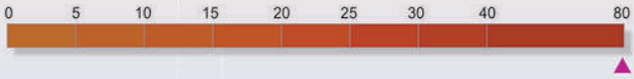
A96 AB has a shelf-life of twelve (12) months from the date of manufacture, as indicated by the lot number, when stored in the original, unopened contained at or below 25°C.
A96 AB其在未開封之狀態，
在室溫25°C以下可保存12個月，

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Thermal Conductivity 導熱係數 : 2.5 W/mK

Hardness 軟硬度 : 80 (Shore A)



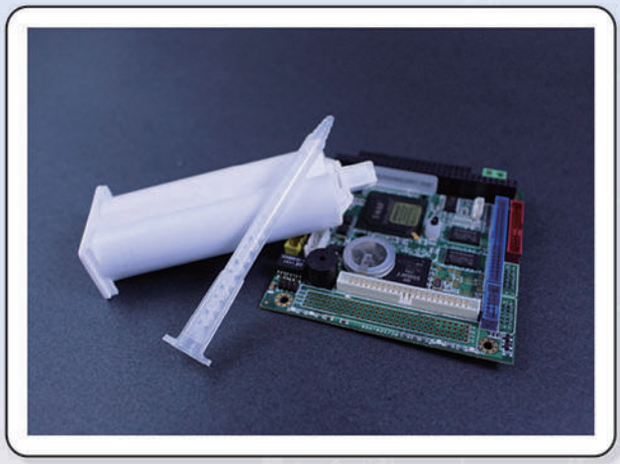
Properties	A96AB	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2.5	W / mK	±0.25	ASTM D5470
Color 顏色	White白/Black黑	-	-	Visual目視
Dielectric Breakdown Voltage 耐電壓	10	KV / mm	±1	ASTM D149
Weight Loss 重量損失	<1	%	-	ASTM E595
Density 密度	1.8	g / cm³	±0.2	ASTM D792
Working Temperature 工作溫度	-25~150	°C	-	-
Viscosity 黏度	1800~2500	cps	-	ASTM D2393
Standard package 標準包裝	1KG	Pot	-	-
Hardness 硬度	80	Shore A	±8	ASTM D2240
Curing Time 固化時間@25°C	35	Hrs	-	-
Curing Time 固化時間@80°C	1.5	Hrs	-	-

Need samples?樣品需求?

A96 AB - 30 gram
1 2
1. Choose the P/N
2. Fill the quantity you need

S730 導熱封膠
Silicone Potting Compound

t-global TECHNOLOGY
www.tglobal.com.tw



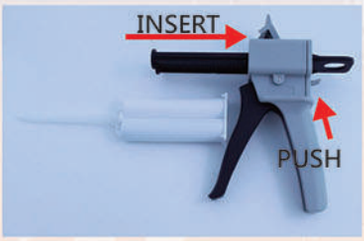
產品特性 Features

Good thermal conductivity 良好的導熱效能
Heat curing 加熱熟化
A:B = 1:1; Easy to mix 一比一比例易於混合
Can be applied with pistol 可搭配擠出槍方便作業
Low viscosity 低黏度
Easy to assemble 容易施工

產品應用端 Applications

Automotive electronics, telecommunications
Computer and peripherals
Thermal conductive vibration dampening
Between any heat-generating semiconductor and a heat sink

膠槍組裝說明 Operation Manual-Gel Gun



STEP1-Push the latch and insert the stick

STEP 2-Put the tube in

STEP 3-Close the cover

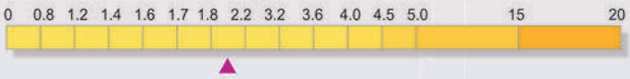
保存方式 Storage

S730 has a shelf-life of twelve (12) months from the date of manufacture, as indicated by the lot number, when stored in the original, unopened contained at or below 25°C.
S730其在未開封之狀態，在室溫25°C以下可保存12個月．

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Thermal Conductivity 導熱係數 : 2.0 W/mK



Hardness 軟硬度 : 20 (Shore A)

Properties	S730	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	2	W / mK	±0.2	ASTM D5470
Color 顏色	Gray灰	-	-	Visual目視
Dielectric Breakdown Voltage耐電壓	12	KV / mm	±1.2	ASTM D149
Volume Resistance體積阻抗	$>10^{13}$	Ohm-m	-	ASTM D257
Density 密度	2.5	g / cm^3	±0.2	ASTM D792
Working Temperature工作溫度	-50~200	°C	-	-
Viscosity黏度	<50000	cps	-	ASTM D2393
Standard package標準形狀	100g/1KG	Tube / Pot	-	-
Hardness硬度	20	Shore A	±2	ASTM D2240
Curing Time 固化時間@25°C	300	Min	-	-
Curing Time 固化時間@60°C	30	Min	-	-
Curing Time 固化時間@100°C	5	Min	-	-

Need samples?樣品需求?

S730 - 30 gram
1 2

1. Choose the P/N
2. Fill the quantity you need

S720 AB 導熱封膠
Silicone Potting Compound

t-global TECHNOLOGY
www.tglobal.com.tw

產品特性 Features

Good thermal conductivity 良好的導熱效能
Room temperature 室溫熟化
A:B = 100:2
High stability 高穩定性
Water proof 防水氣/電子灌注封裝

產品應用端 Applications

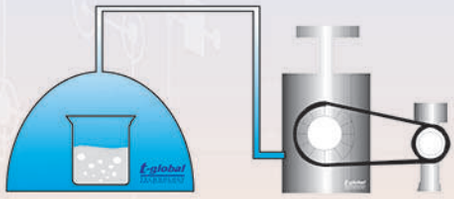
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

保存方式 Storage

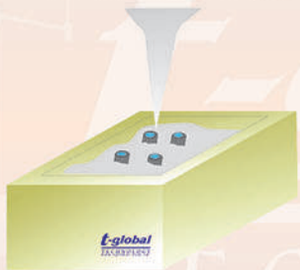
S720 AB has a shelf-life of twelve (12) months from the date of manufacture, as indicated by the lot number, when stored in the original, unopened contained at or below 25°C.
S720AB其在未開封之狀態，在室溫25°C以下可保存12 個月．

1. MIX 混合

2 Vacuum out air 抽真空



3. Pour S720 AB 灌注



產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Thermal Conductivity 導熱係數 : 0.8 W/mK

Hardness 軟硬度 : 40~50 (Shore A)

Properties	S720AB	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	0.8	W / mK	±0.08	ASTM D5470
Color 顏色	White白	-	-	Visual目視
Dielectric Breakdown Voltage耐電壓	6	KV / mm	±0.6	ASTM D149
Weight Loss重量損失	<1	%	-	ASTM E595
Density 密度	1.97	g / cm³	±0.2	ASTM D792
Working Temperature工作溫度	-40~180	°C	-	-
Viscosity黏度	2000~3000	cps	-	ASTM D2393
Standard Package標準形狀	1KG	Pot	-	-
Hardness硬度	40~50	Shore A	±4~5	ASTM D2240
Curing Time 固化時間@25°C	35	Hrs	-	-

Need samples?樣品需求?

S720 AB - 30 gram
1 2

1. Choose the P/N
2. Fill the quantity you need

S606B/S606C 導熱膏
Thermal Grease

t-global TECHNOLOGY
www.tglobal.com.tw

產品特性 Features

Good thermal conductivity 良好的導熱性
Easy to assemble 容易施工
High stability 高穩定性

產品應用端 Applications

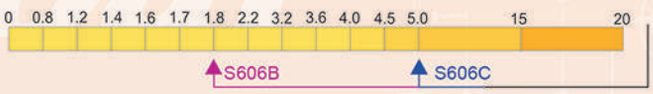
Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

保存方式 Storage

S606 has a shelf-life of eighteen (18) months from the date of manufacture, as indicated by the lot number, when stored in the original, unopened contained at, or below 25°C.
S606 系列在其未開封之狀態，於室溫25°C以下可保存18個月，

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範



S606B Thermal Conductivity 導熱係數:1.8 W/m.K
S606C Thermal Conductivity 導熱係數: 5.0 W/m.K

Properties	S606B	S606C	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.8	5	W / mK	±10%	ASTM D5470
Color 顏色	White白	Gray灰	-	-	Visual目視
Oil Dispersible油分離度	<0.2	<0.05	%	-	24hrs at 150°C
Weight Loss重量損失	<0.5	<0.5	%	-	ASTM E595
Density密度	2.3	2.3	g / cm³	±10%	ASTM D792
Working Temperature工作溫度	-40~+180	-40~+180	°C	-	-
Viscosity黏度	30	125	Pas	-	ASTM D2196
Standard package標準包裝	1KG	1KG	Pot	-	-
Volume Resistance體積阻抗	$>10^{11}$	$>10^{12}$	Ohm-m	-	ASTM D257
Thermal Resistance熱阻值	0.06	0.02	°C - in / W	-	ASTM D5470

Need samples?樣品需求?

S6060C - 30 gram
1 2

1. Choose the P/N
2. Fill the quantity you need

GT Series 導熱矽膠
Thermal Pad

t-global TECHNOLOGY
www.tglobal.com.tw

產品特性 Features

Smooth surface & low contact resistance光滑的表面和低熱阻
Usable over a wide temperature range 可適用於恆溫輻射範圍之內
Electrical insulation; high breakdown voltage電氣隔離與高耐電壓
Complies with UL standards 符合UL標準

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

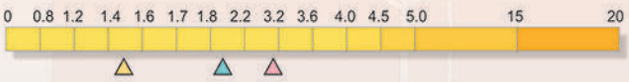
熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection

GT15			GT20			GT30		
Pressure(psi)	R(°C-in²/W)	Deflection(%)	Pressure(psi)	R(°C-in²/W)	Deflection(%)	Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.69	<2.5	10	0.5	<2.5	10	0.54	<2.5
30	0.5	<2.5	30	0.42	<2.5	30	0.42	<2.5
50	0.4	17	50	0.35	21	50	0.38	6

產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Thermal Conductivity 導熱係數: 1.5/2.0/3.0 W/mK

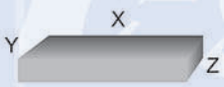


Hardness 軟硬度 : 90/85/85(Shore A)

Testing sample thickness: GT15-0.23mm/GT20-0.3mm/GT30-0.35mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, GT Series provides low thermal impedance.
The pressure gets higher, the thermal impedance gets lower, and deflection percentage gets higher.
GT Series provides good compliance and softness.

Properties	GT15	GT20	GT30	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.5	2	3	W / mK	±10%	ASTM D5470
Thickness 厚度	0.23	0.3	0.35	mm	-	ASTM D374
Color 顏色	Yellow黃	Green綠	Pink粉紅	-	-	Visual目視
Flame Rating 耐燃等級	V-0	V-0	V-0	-	-	UL 94
Dielectric Breakdown Voltage 耐電壓值(AC)	4	4	3	KV	±10%	ASTM D149
Dielectric Breakdown Voltage 耐電壓值(DC)	6	6	5	KV	±10%	ASTM D149
Weight Loss 重量損失	<0.2	<0.2	<0.2	%	-	ASTM E595
Density 密度	2.3	2.6	2.8	g / cm³	±10%	ASTM D792
Working Temperature 工作溫度	-45~180	-45~180	-45~180	°C	-	-
Volume Resistance 體積阻抗	$>10^{12}$	$>10^{12}$	$>10^{10}$	Ohm-m	-	ASTM D257
Elongation 延展率	60	60	30	%	-	ASTM D412
Tensile Strength 抗拉強度	200	200	100	Kgf / cm²	-	ASTM D412
Standard Shape 標準形狀	Sheet ones單片狀	Sheet ones單片狀	Sheet ones單片狀	-	-	-
Hardness 硬度	Shore A 90	Shore A 85	Shore A 85	-	±3	ASTM D2240

Need samples?樣品需求? Available to apply adhesive可依需求背膠 Pre-cut for different shapes可依需求沖型裁切

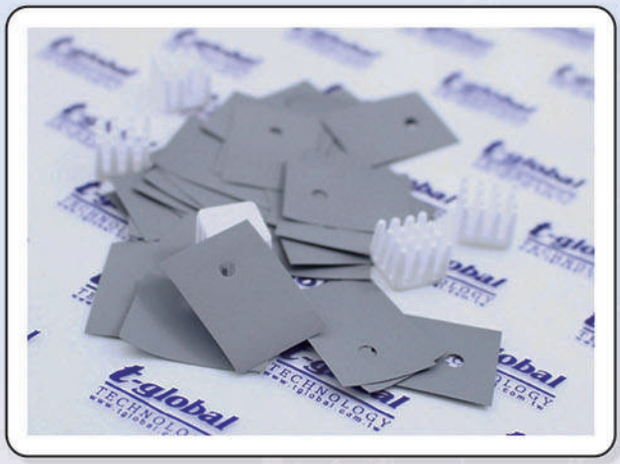


GT15 - 20 - 15 - 0.23 - 1A , 20
(1: GT15; 2: X Y Z; 3: 1A; 4: 20)

1. Choose the P/N
2. Fill into size: X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

Ti900 導熱複合材料
Thermal Insulator

t-global TECHNOLOGY
www.tglobal.com.tw



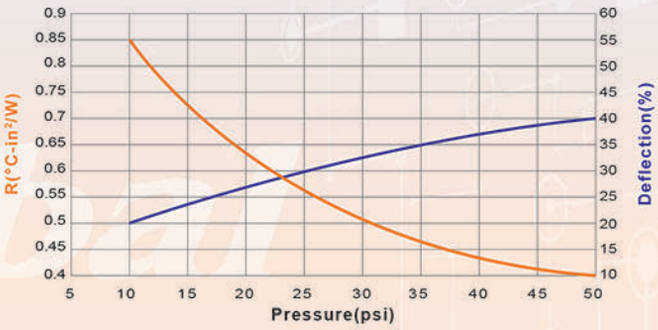
產品特性 Features

Insulation strength 電氣絕緣
Low thermal resistance 0.402 (K-in²/W) @ 50psi 低熱阻
Easy to assemble 容易施工

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	0.85	20
30	0.51	33
50	0.40	40

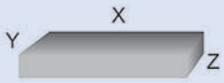
產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範 UL Compliant 符合UL規範

Testing sample thickness: 0.12mm
In "Thermal resistance V.S. Pressure V.S Deflection" chart, Ti900 provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower, and deflection percentage stays approximately the same.

Properties	Ti900	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.8	W / mK	±0.18	ASTM D5470
Thickness厚度	0.12	mm	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Base基材	Polyimide	-	-	-
Insulation Strength Vac 耐電壓	6	KV	-	ASTM D149
Volume resistance 體積阻抗	$>10^{12}$	Ohm-m	-	ASTM D257
Working temperature 工作溫度	-50~180	°C	-	-
Tensile Strength 抗拉強度	5000	psi	-	ASTM D412
Elongation 延展率	40	%	-	ASTM D412
Flame rating 耐燃等級	V-0	-	-	UL 94
Standard Shape標準形狀	Sheet ones單片狀	-	-	-

Need samples?樣品需求? Pre-cut for different shapes可依需求沖型裁切



X Y Z
Ti900 - 20 - 15 - 0.12, 20
1 2 3

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Fill the quantity you need

PH3導熱複合材
Heat Spreader

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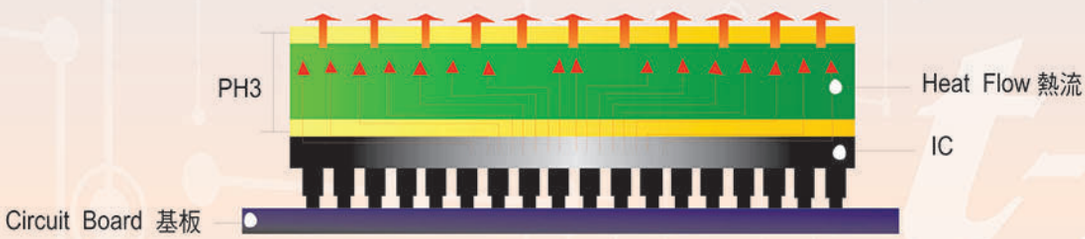
產品特性 Features

Excellent thermal radiation優良熱輻射
Thin&bendable 超薄且具可彎曲性
Available for unventilated design 適用於不通風環境
No dusting issue 無剝離及掉粉問題

產品應用端 Applications

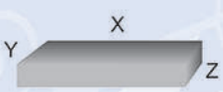
Mobile phone, Laptops, Set-top box, LED back light, PDP/LCD/OLED screens, Ultra bright LED, Digital camera, Digital video camera, NIC, Projector, Handheld device etc.

產品物性 Properties



Properties	PH3			Unit	Tolerance	Test Method
Metal Layer Thermal Conductivity 金屬層導熱係數	400	400	400	W / mK	-	ASTM D5470
Coating Layer Thermal Conductivity 塗佈層導熱係數	1.2	1.2	1.2	W / mK	-	ASTM D5470
Total thickness 總厚度	0.06	0.11	0.21	mm	±10%	ASTM D374
Metal Layer Thickness 金屬層厚度	0.012	0.05	0.1	mm	±10%	ASTM D374
Coating Layer Thickness 塗佈層厚度	0.048	0.06	0.11	mm	±10%-	ASTM D374
Color 顏色	Black黑			-	-	Visual目視
Metal Layer 金屬層	Cu Foil			-	-	-
Coating Layer 塗佈層	High Thermal Radiation Nano-carbon Tube			-	-	-
Surface Resistance 體積阻抗	10^{12}	10^{12}	10^{12}	Ohm-m	-	-
Continuous Working Temperature 工作溫度	-30~120	-30~120	-30~120	°C	-	-
Initial Tack 初期黏性	18	15	11	cm	-	PSTC-6
30° Peeling Strength (aluminum) 剝離強度	8	10	12	N / in	-	ASTM D3330
Breakdown Voltage(AC) 擊穿電壓	2	2	3	KV	-	ASTM D149
Breakdown Voltage(DC) 擊穿電壓	3	3	4	KV	-	ASTM D149
Flame Rating 耐燃等級	V-2	V-2	V-2	-		UL94

Need samples?樣品需求? Available to apply adhesive可依需求背膠



X Y Z
PH3-20-15-0.21-1A, 20
1 2 3 4

1. Choose the P/N
2. Fill into size:X,Y,Z
3. Apply the adhesive or not? 0=none, 1A= one side, 2A= two sides
4. Fill the quantity you need

CP Series 導熱絕緣帽套
Thermal Cap

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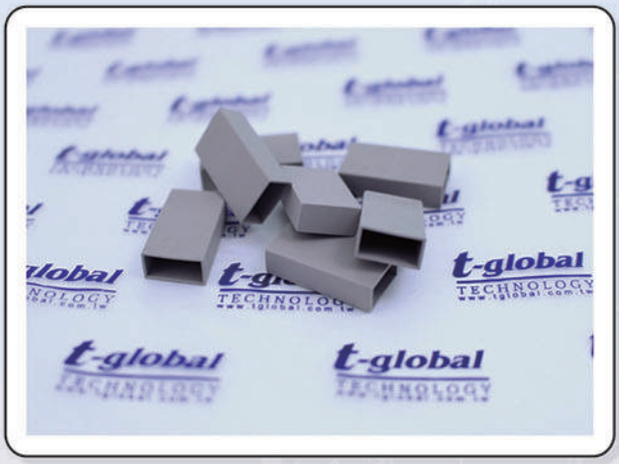


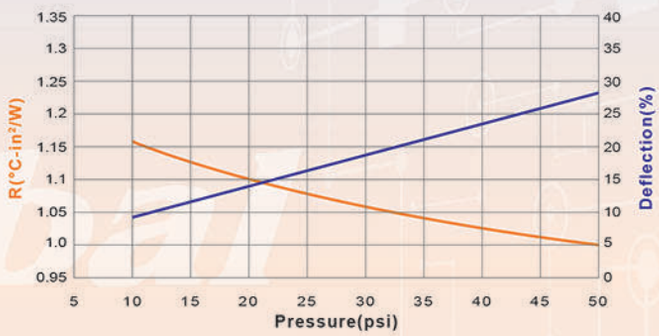
產品特性 Features

Low thermal contact resistance 低熱阻抗
Electrically isolating 高絕緣性
Decrease the weight of the product 降低產品重量
Easy to assemble 簡易安裝組件
Thermal conduction and buffer effect 熱傳導與緩衝效果

產品應用端 Applications

Electronic components: IC, CPU, MOS, LED,
Mother Board, Power Supply, Heat Sink, LCD-TV,
Notebook, PC, Telecom Device, Wireless Hub,
DDR II Module, DVD Applications, Hand-set applications etc.

熱阻抗VS.壓力VS.變形量示意圖 Thermal Resistance VS. Pressure VS. Deflection



Pressure(psi)	R(°C-in²/W)	Deflection(%)
10	1.16	9
20	1.1	14
50	1	28

選擇尺寸 Standard Sizes (mm)

1. CP22 TO-220: 11.4 x 16 x 5.8
2. CP23 TO-220: 11.4 x 21.5 x 5.8
3. CP33 TO-247: 17.5 x 28.5 x 5.8

Hardness 軟硬度 : 75 (Shore A)

Testing sample thickness: 0.45mm
In "Thermal resistance V.S. Pressure V.S. Deflection" chart, CP Series provides low thermal impedance. The pressure gets higher, the thermal impedance gets lower. CP Series provides good compliance and softness.

Properties	CP22/CP23/CP33	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	1.9	W / mK	±0.19	ASTM D5470
Thickness厚度	0.3/0.45	mm	-	ASTM D374
Color 顏色	Gray灰	-	-	Visual目視
Material 材料	Silicone	-	-	-
Working Temperature 工作溫度	-45~180	°C	-	-
Density 密度	2.55	g / cm³	-	ASTM D792
Breakdown Voltage AC 耐電壓值	4/6	KV	±0.4/±0.6	ASTM D149
Breakdown Voltage DC 耐電壓值	6/8	KV	±0.6/±0.8	ASTM D149
Dielectric Constant 介電係數	5.8	1000Hz	-	ASTM D150
Thermal Impedance @10psi熱阻抗	1.16	°Cin² / W	-	ASTM D5470
Thermal Impedance @20psi熱阻抗	1.1	°Cin² / W	-	ASTM D5470
Thermal Impedance @50psi熱阻抗	1	°Cin² / W	-	ASTM D5470
Hardness 硬度	75	Shore A	±7	ASTM D2240

FAM 防電磁波吸收材
Flexible Absorbent Material

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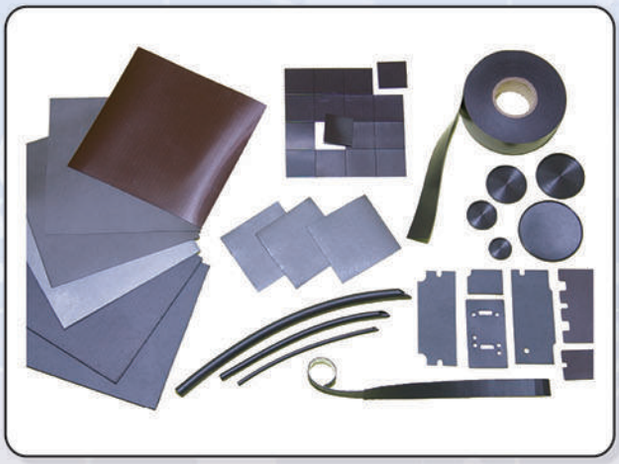
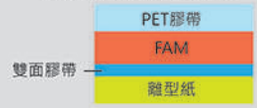


產品特性 Features

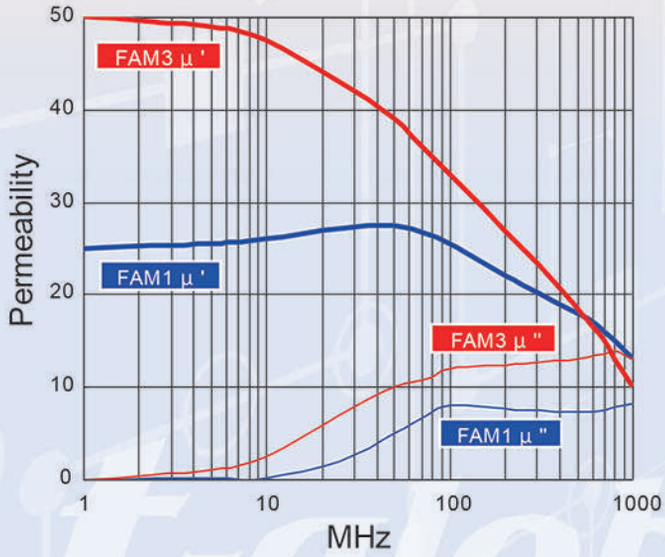
Provide effective EMI suppression in a wide frequency range (10MHz to 18GHz) 有效抑制電磁波干擾，頻寬從10MHz到18GHz
Ultra thin and extremely flexible, can be freely arranged in space 超薄且容易彎曲，方便至於不同位置
Non-conductive adhesive backing (UL Recognized) available 可配合UL等級的不導電雙面膠使用
Effective in preventing resonance and suppressing coupling 有效預防共振及抑制耦合現象
High surface resistance (10^6-10^9 ohms) 高表面阻抗值(10^6-10^9 ohms)
Easy and fast to process 使用方便快速
Can be cut any shape easily 方便裁切各種尺寸

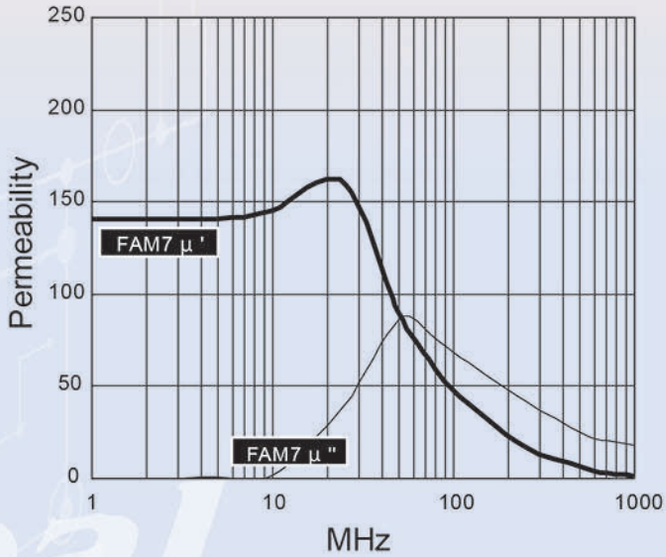
產品物性 Properties

RoHS Compliant 符合RoHS規範

Physical Properties	單位	FAM1	FAM3	FAM7
Frequency 適用頻率	G Hz	0.001-18.0	0.001-18.0	0.001-3.0
Thickness 厚度	mm	0.12-2.50	0.25/0.50/0.75	0.08/0.12/0.22
Maximum Size 最大尺寸	mm	400 x 400		130 x 130
Material 材料	-	Magnetic Particles+Rubber 磁性粉+橡膠		Sintering iron- core 燒結鐵心
Magnetic Inductivity導磁率(μ'@1MHz)	-	25	50	140
Halogen 鹵素	-	Halogen contained含鹵		Halogen free無鹵
Working Temperature 工作溫度	°C	-40~+85	-40~+85	-30~+120
Density 密度	g/cm^3	3.6	4.8	3.8
Surface Resistance 表面阻抗	ohm	10^6	10^6	10^9
Structure 結構		可貼一面/兩面或不貼雙面膠 		可一面貼PET一面貼雙面膠或兩面都貼雙面膠 

導磁率 (μ = μ′- j μ″)





FAM 防電磁波吸收材
Flexible Absorbent Material

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用途 Applications

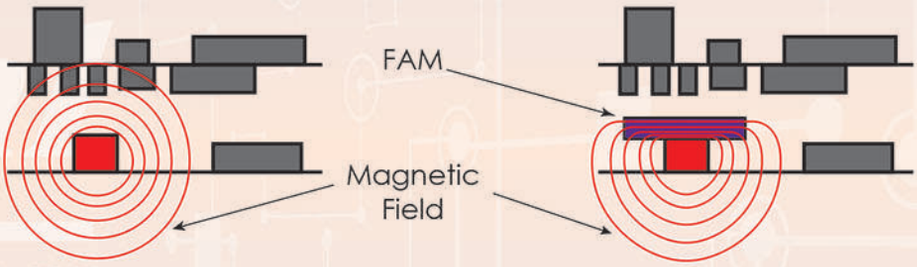
- Notebooks, PCs, workstations筆記型電腦,個人電腦,工作站
- LNBs for satellite systems衛星低雜訊降頻器
- Mobile communications equipment行動通訊設備
- Base Stations for mobile phones and PHS行動電話基地台 / PHS基地台
- Peripheral devices for computers電腦週邊設備
- Wireless equipment無線設備
- Mobile Phones, PHS行動電話 / PHS
- High speed clocks高速時脈
- RFID (Radio Frequency Identification) systems RFID (無線射頻辨識)系統
- NFC (Near field communication) NFC(近場通訊)
- Wireless Charger無線充電器

應用 Applications for RFID

Besides the application of EMI, FAM can be a solution for RFID on metal also. It suitable for LF(125KHz) and HF(13.56MHz) bands. It can deal with the malfunction problems when RFID Reader/Writer or RFID tag attached on metal (recover maximum 80% efficiency of the original distance). By this way can save more space from RFID to metal.

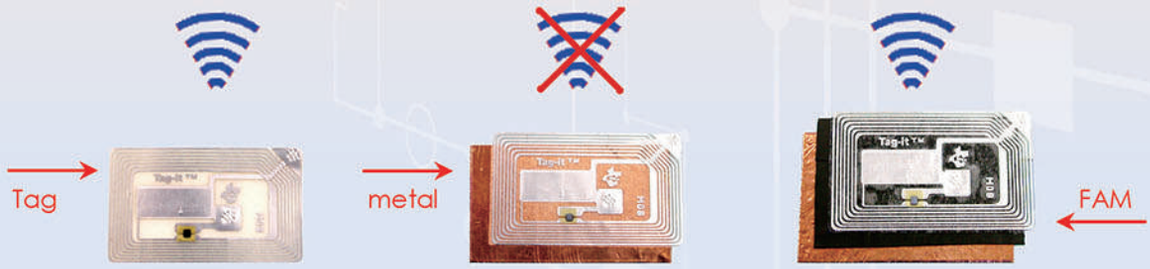
除EMI的應用外，FAM可處理RFID標籤/讀寫機貼在金屬上時讀取不良的問題，最多可恢復原80%讀取距離，適用於LF(125KHz)及HF(13.56MHz)頻段，可省去RFID和金屬間的距離

Magnetic Shielding



FAM can change the magnetic flux path to avoid the magnetic flux affect others components.

Application for RFID NFC on metal



(RFID tag only)
(100% original distance)

(RFID tag + metal)
(5% max original distance)

(RFID tag + FAM + metal)
(80% max original distance)

FAM 防電磁波吸收材
Flexible Absorbent Material

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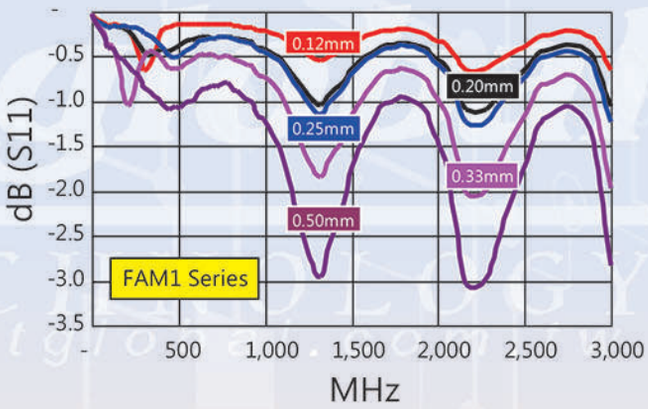
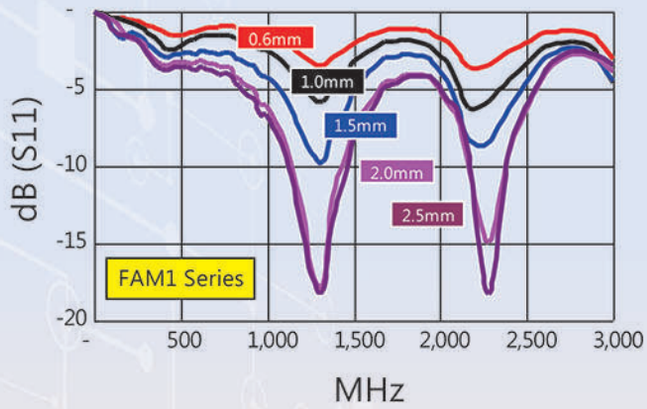
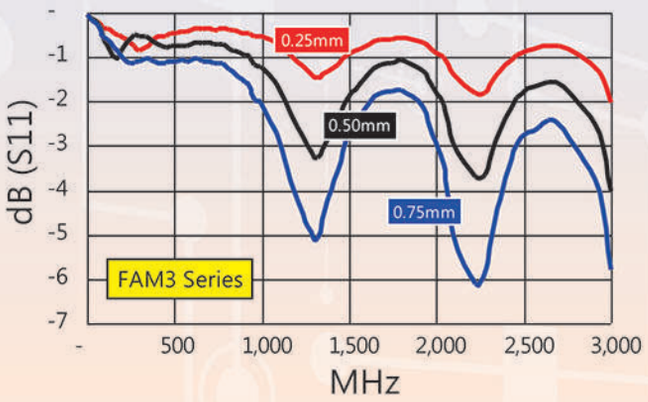
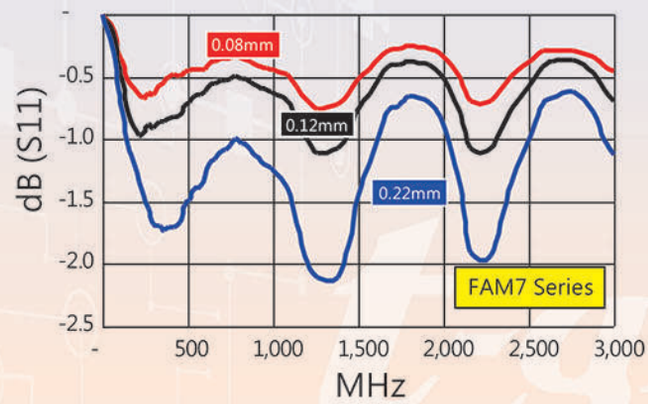
反射損失 (1MHz~3GHz)

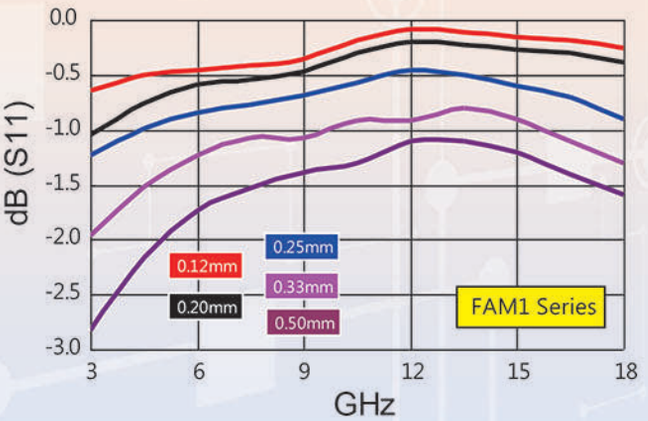


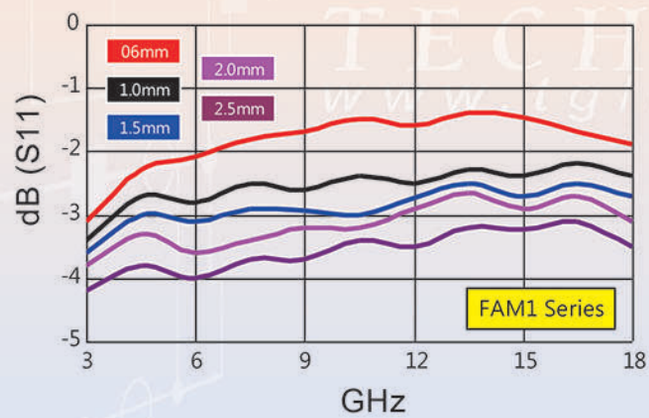


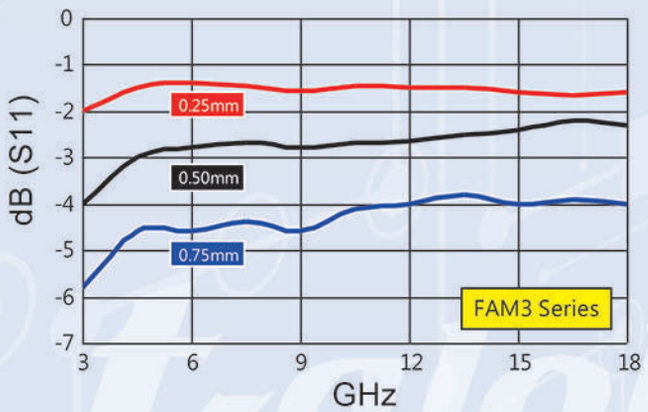


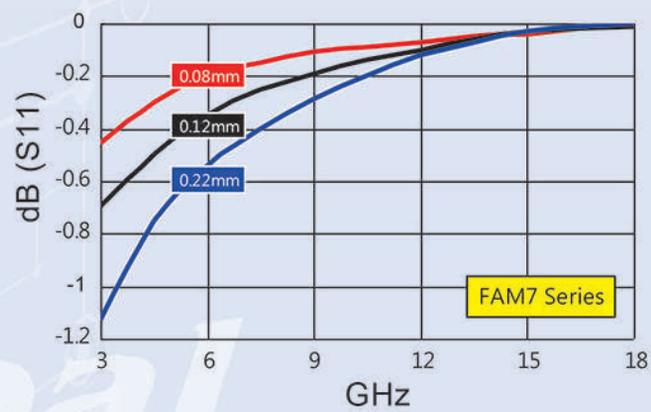


反射損失 (3GHz ~ 18GHz)









XL-25 陶瓷散熱片
Ceramic Heat Spreader

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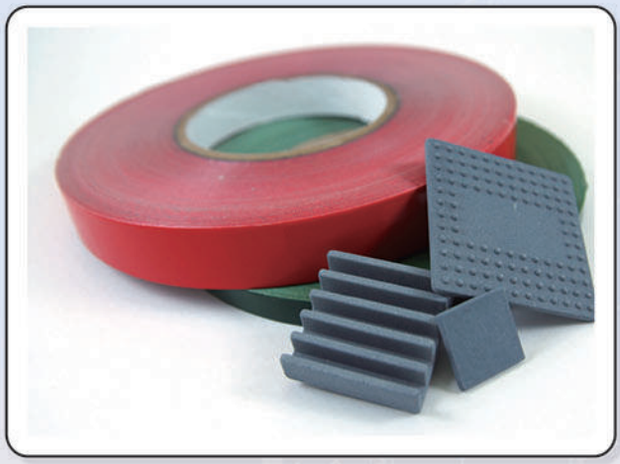


產品特性 Features

Open-porous structure increases air contact area
開放性多孔結構增加接觸空氣面積
Best for limited space 適用於有限的安裝空間
High breakdown voltage/ high resistance 高耐電壓及高表面阻抗
Good thermal conduction/ Low thermal expansion coefficient
導熱性能佳/低熱膨脹係數
EMI reduction 降低電磁干擾
High reliability 冷熱衝擊性佳，可適應環境劇烈變動

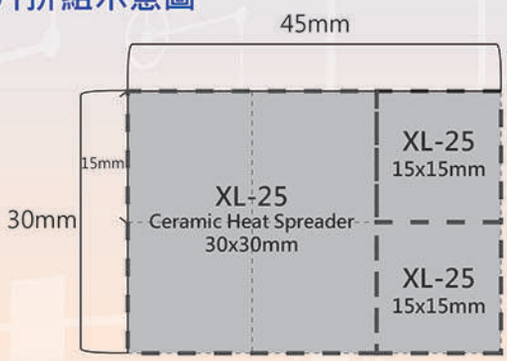
產品應用端 Applications

Electronic components: IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device,Wireless Hub etc.

選擇尺寸 Standard Sizes (mm)

01. 10x10x2.0(平板/flat)
02. 15x15x2.5(平板/flat)
03. 15x15x5.0(鰭片/fin)
04. 20x15x2.0(平板/flat)
05. 20x20x2.0(平板/flat)
06. 20x20x2.5(平板/flat)
07. 22x22x2.5(平板/flat)
08. 30x30x2.0(平板/flat)
09. 30x30x2.5(平板/flat)
10. 30x30x5.0(鰭片/fin)
11. 35x35x10.0(鰭片/fin)
12. 40x40x2.5(平板/flat)
13. 40x40x3.0(凸點/embossed)
14. 40x40x5.0(鰭片/fin)
15. 40x40x10.0(鰭片/fin)
16. 50x50x3.0(凸點/embossed)
17. 50x50x5.0(鰭片/fin)
18. 50x50x10.0(鰭片/fin)

陶瓷散熱片拼組示意圖

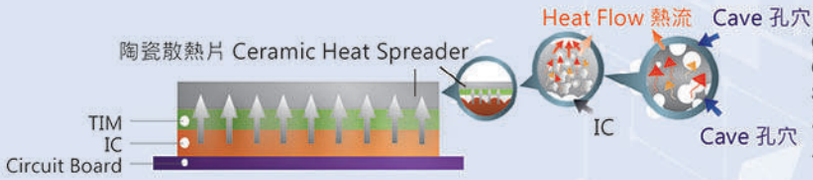


產品物性 Properties

REACH Compliant 符合REACH規範 RoHS Compliant 符合RoHS規範

Properties	XL-25	Unit	Tolerance	Test Method
Thermal Conductivity 導熱係數	10	W / mK	±0.67	-
Color 顏色	Gray灰/Green綠	-	-	Visual目視
Dielectric Breakdown Voltage 耐電壓	500	Voltage	-	ASTM D149
Bulk Density 體密度	1.89	G / cm³	±0.18	CNS 619
Flexural Strength 彎曲強度	47.5	Kgf / cm²	-	CNS 12701
Porosity 孔隙度	25	%	-	CNS 619
Water absorption 吸水率	16	%	-	CNS 619
Working Temperature工作溫度	<500	°C	-	-
Linear Temperature Expansion Coefficient 熱膨脹係數	4.13	10^{-6}	-	RT~300°C
Main Composition 主要成分	SiC / Al_2O_3 / SiO_2	-	-	-
Hardness 硬度	5~6	Moh' s	±0.6	DIN En101-1992

陶瓷散熱片的散熱機制 Ceramic Heat Spreader Mechanism



Qt ∝ S x A :散熱效能與風速及接觸面積成正比。
Qt : The heat wouldbe taken by air flow. 經由空氣接觸所帶走的熱能。
S : Air flow (m/s) 風速。 A : Air contact area (m ²) 接觸面積。
Aca : Air contact (m²) of ceramic heat sink 陶瓷散熱片的接觸面積。
Aal : Air contact (m²) of aluminium heat sink 鋁質散熱片的接觸面積。

Aca ≒ 5 x Aal

The air-contact area of ceramic heat spreader is nearly 5 times of aluminum heat sink, when they have the same volume. In the same air flow, ceramic heat spreaders can provide more air-contact area. When A is bigger. Qt would be bigger.

同體積的陶瓷散熱片的空氣接觸面積約等於五個同體積鋁質散熱器的空氣接觸面積之總和。在一樣的風速下，陶瓷散熱片能提供更多的空氣接觸面積。當接觸面積越大，熱能被帶走的量越大。

Heat Sink ①

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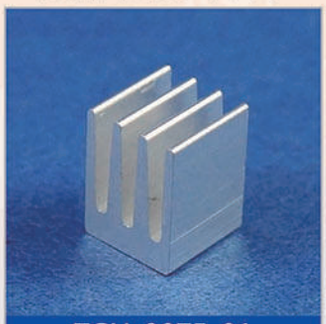
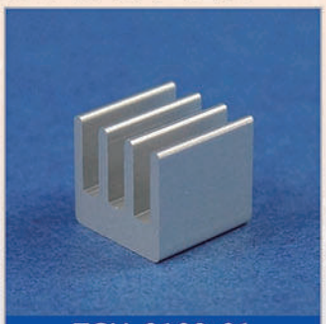
散熱片(Heat Sink) 為導熱性佳、質輕、易加工之金屬（多為鋁或銅），可貼附於發熱元件表面，是目前作為電子散熱最普遍的產品之一。如何提高散熱片的熱傳導率與散熱面積，以提升整體機構散熱效率，更是目前相關產業所面臨的重要課題。散熱片製造方式分為沖壓、擠型、壓鑄、鍛造，這些成品可以做為散熱主要元件、機構件使用，有些則是肩負機構外殼及散熱之雙重任務。如有特殊需求，歡迎洽詢我司業務得到更多資訊。

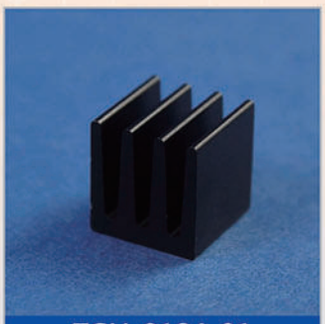
• 規格皆為寬x長x高　• 此為既有模具公規



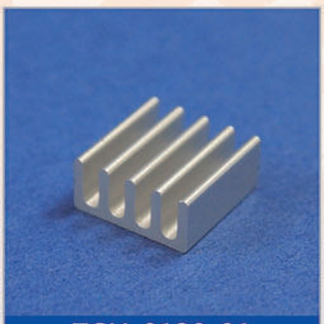
TGH-0075-01	
7.5x7.5x10mm	1g
洗淨	AL6063



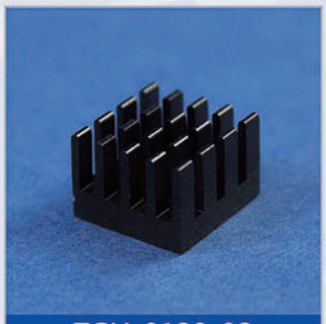
TGH-0100-01	
10x10x9.5mm	1.5g
洗淨	AL6063



TGH-0124-01	
12.4x12.4x13mm	3g
陽極黑色	AL6063



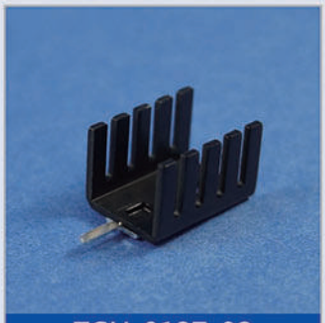
TGH-0130-01	
13x13x6mm	2g
洗淨	AL6063



TGH-0130-02	
13x13x9mm	2g
陽極黑色	AL6063

TGH-0130-03	
13x35x6mm	4g
陽極黑色	AL6063

TGH-0132-01	
13.2x19x9.7mm	1.5g
陽極黑色	AL1050



TGH-0137-02	
13.7x25.6x12mm	2g
陽極黑色	AL1050

Heat Sink ②

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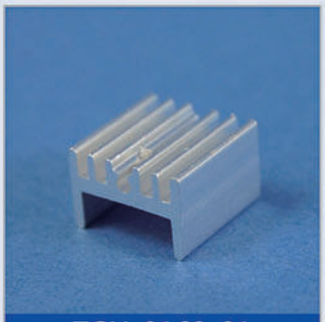
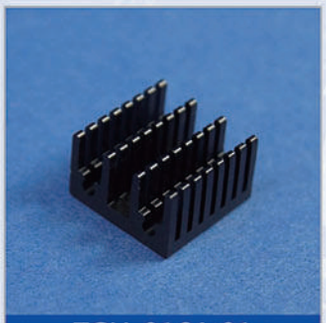
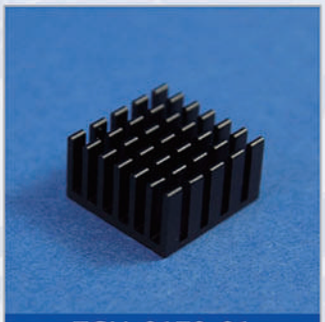
• 規格皆為寬x長x高　• 此為既有模具公規



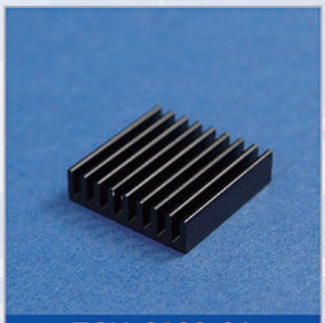
TGH-0160-01	
16x16x11mm	3g
洗淨	AL6063



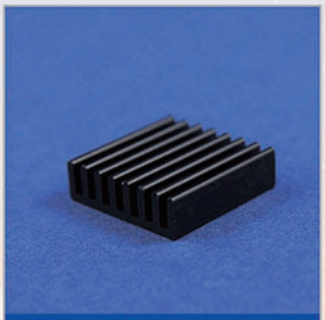
TGH-0164-01	
16.4x16x10mm	3g
陽極黑色	AL6063



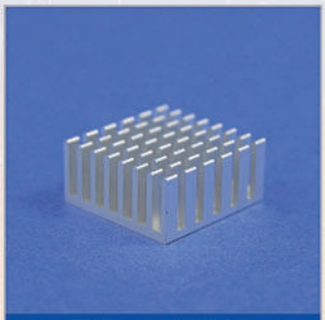
TGH-0170-01	
17x17x9.5mm	3g
陽極黑色	AL6063



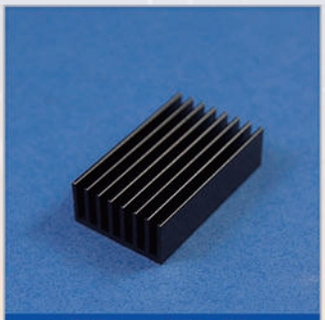
TGH-0190-01	
19x19x5mm	3g
陽極黑色	AL6063



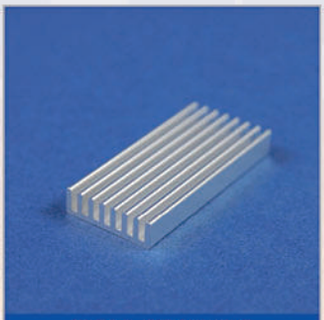
TGH-0200-02	
20x20x6mm	4g
陽極黑色	AL6063



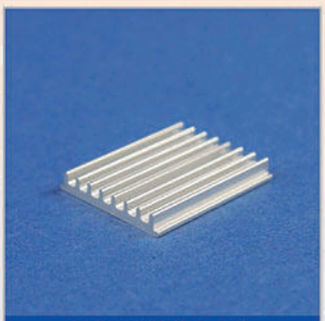
TGH-0200-03	
20x20x9.5mm	4g
陽極本色	AL6063



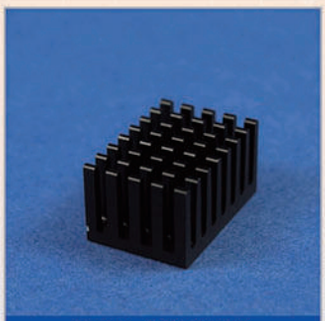
TGH-0200-05	
20x33x9.5mm	8g
陽極黑色	AL1050



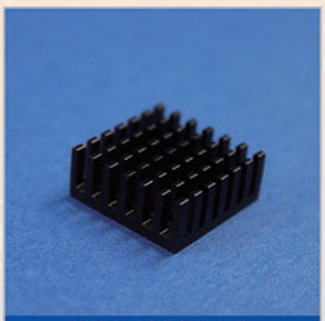
TGH-0200-06	
20x44x6mm	9g
洗淨	AL1050



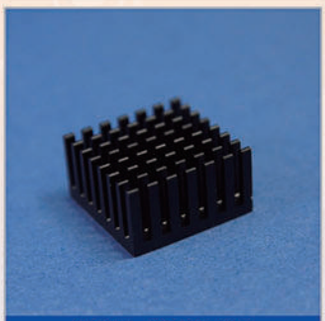
TGH-0210-01	
21x25x3.5mm	3g
陽極本色	AL6063



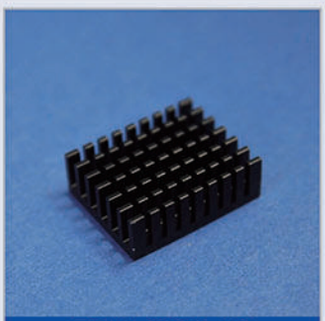
TGH-0220-02	
22x15x11.7mm	4g
陽極黑色	AL6063



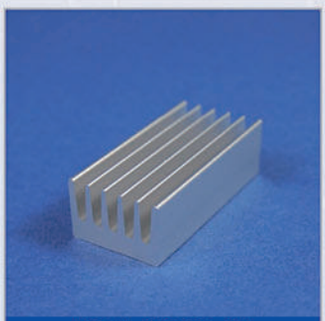
TGH-0220-03	
22x22x9mm	5g
陽極黑色	AL6063



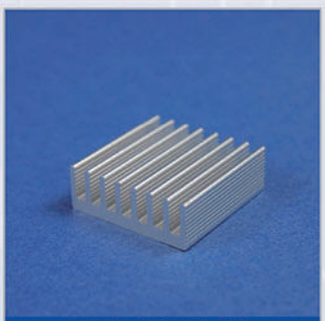
TGH-0220-04	
22x22x11.7mm	7g
陽極黑色	AL6063



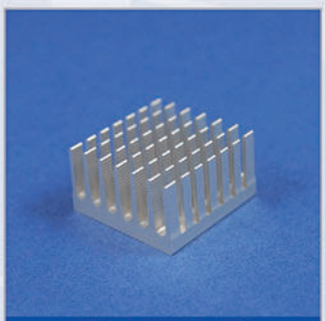
TGH-0220-06	
22x27x9mm	6g
陽極黑色	AL6063



TGH-0220-07	
22x45x14.5mm	23g
陽極本色	AL6063



TGH-0250-01	
25x25x9mm	9g
陽極本色	AL6063



TGH-0260-02	
26x26x14.8mm	10g
陽極本色	AL6063

Heat Sink ③

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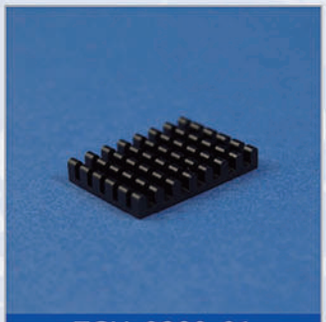
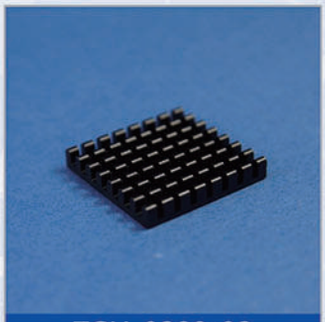
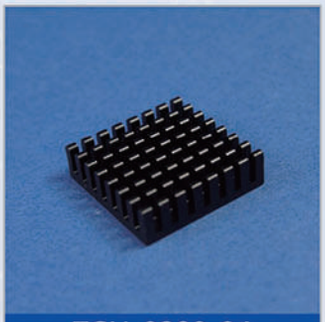
• 規格皆為寬x長x高　• 此為既有模具公規



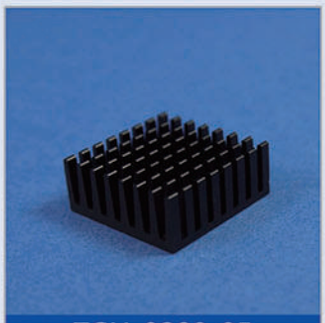
TGH-0280-01	
28x20x4.5mm	4g
陽極黑色	AL6063



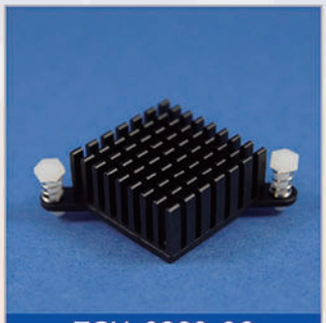
TGH-0280-02	
28x28x4.5mm	5g
陽極黑色	AL6063



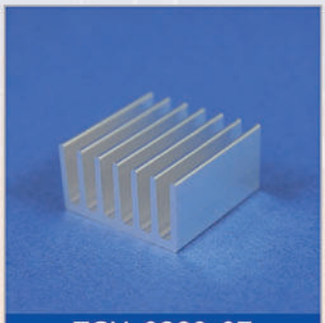
TGH-0280-04	
28x28x8mm	8g
陽極黑色	AL6063



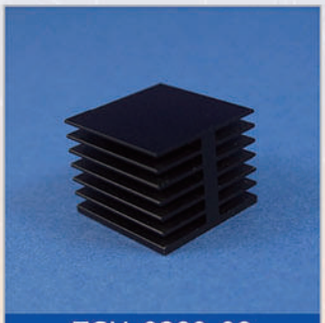
TGH-0280-05	
28x28x11.4mm	10g
陽極黑色	AL6063



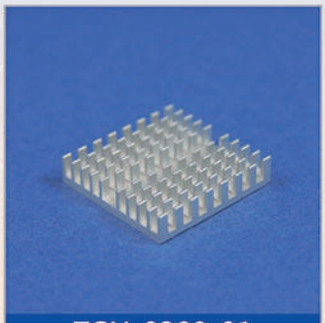
TGH-0280-06	
28x28x12.7mm	12g
陽極黑色	AL6063



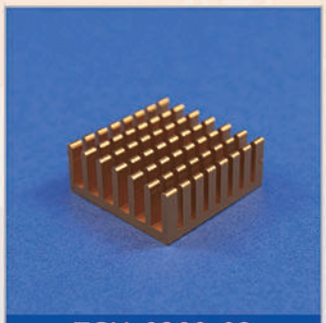
TGH-0280-07	
28x28x15mm	16g
陽極本色	AL6063



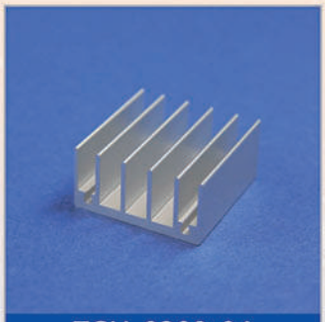
TGH-0280-08	
28x28x22mm	20g
陽極黑色	AL6063



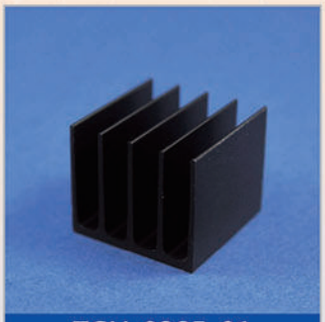
TGH-0300-01	
30x30x6.6mm	6g
陽極本色	AL6063



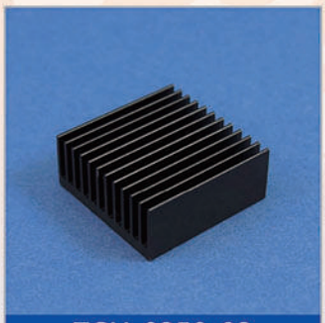
TGH-0300-03	
30x30x12mm	12g
陽極金色	AL6063



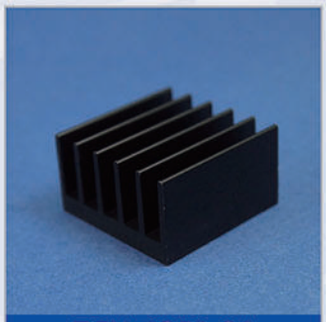
TGH-0300-04	
30x30x15mm	13g
陽極本色	AL6063



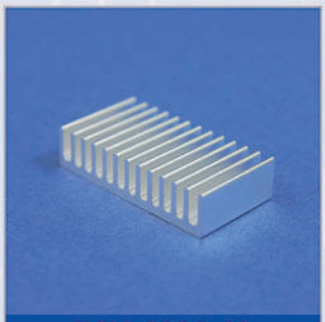
TGH-0325-01	
32.5x32.5x27.5mm	21g
陽極黑色	AL6063



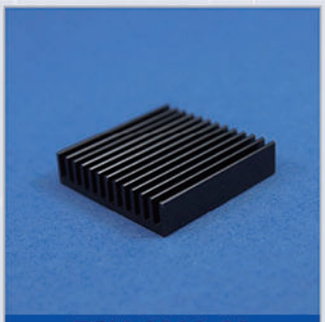
TGH-0350-03	
35x35x15mm	24g
陽極黑色	AL6063



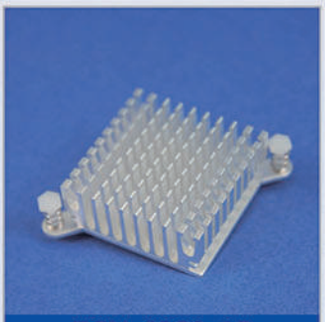
TGH-0350-04	
35x35x20mm	30g
陽極黑色	AL6063



TGH-0380-01	
38x20x9mm	10g
洗淨	AL6063



TGH-0380-03	
38x38x9mm	19g
陽極黑色	AL6063



TGH-0380-05	
38x38x15mm	19g
洗淨	AL6063

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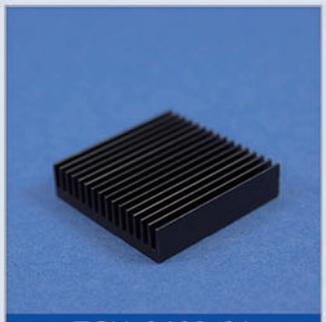
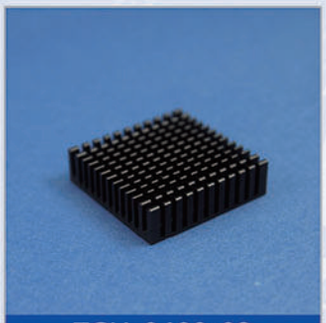
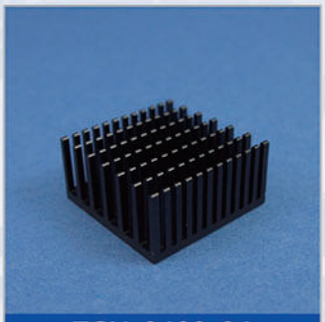
• 規格皆為寬x長x高　• 此為既有模具公規



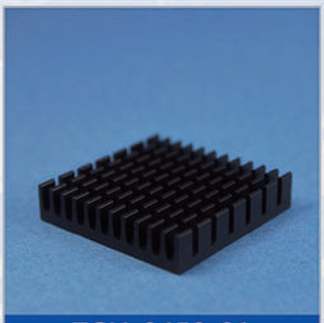
TGH-0400-01	
40x40x10mm	24g
陽極黑色	AL6063



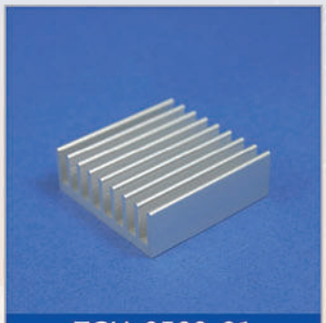
TGH-0400-03	
40x40x11mm	17g
陽極黑色	AL6063



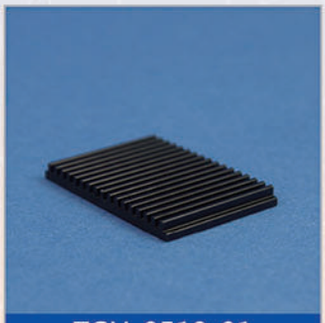
TGH-0400-04	
40x40x20mm	26g
陽極黑色	AL6063



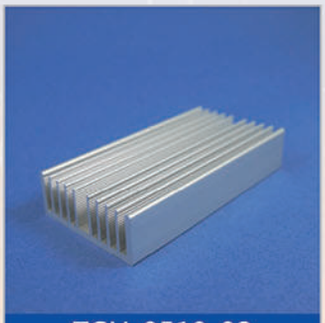
TGH-0450-01	
45x45x10mm	27g
陽極黑色	AL6063



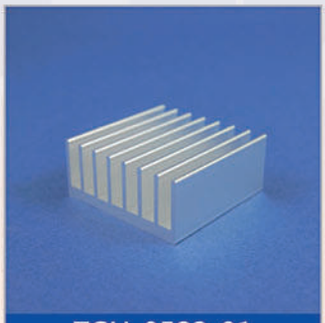
TGH-0500-01	
50x50x17mm	56g
陽極本色	AL6063



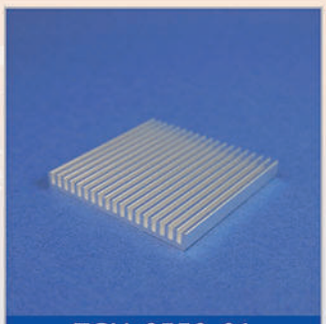
TGH-0510-01	
51x35x5mm	17g
陽極黑色	AL6063



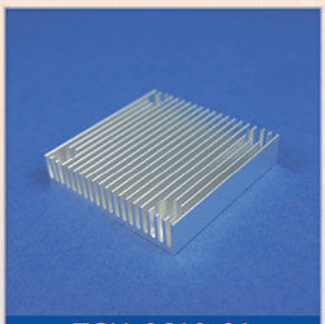
TGH-0510-02	
51x100x20mm	113g
陽極本色	AL6063



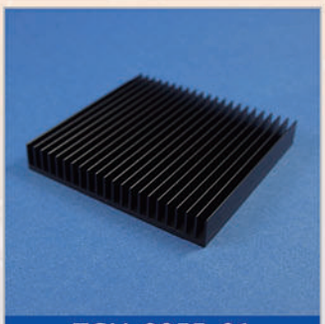
TGH-0522-01	
52.2x52.2x23mm	74g
陽極本色	AL6063



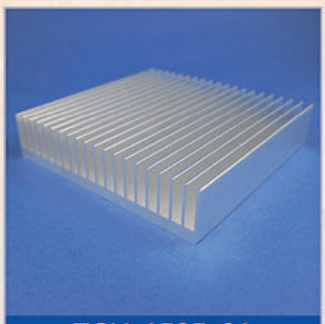
TGH-0550-01	
55x55x6mm	32g
陽極本色	AL6063



TGH-0610-01	
61x61x13mm	67g
陽極本色	AL6063

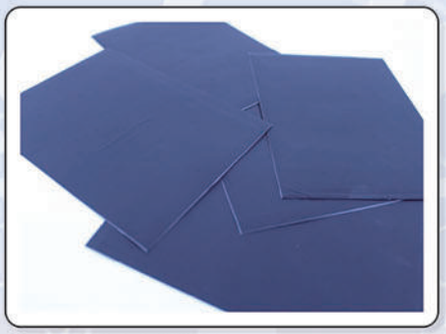


TGH-0955-01	
95.5x95x14.3mm	134g
陽極黑色	AL6063

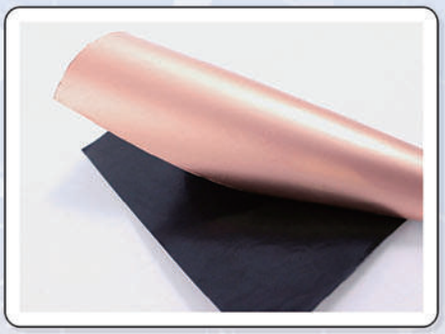


TGH-1535-01	
153.5x150x34mm	906g
陽極本色	AL6063

其他輔助材料
Relative Material

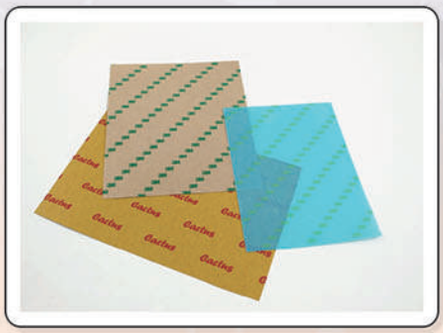


PET 離型/保護膜 PET Mylar film

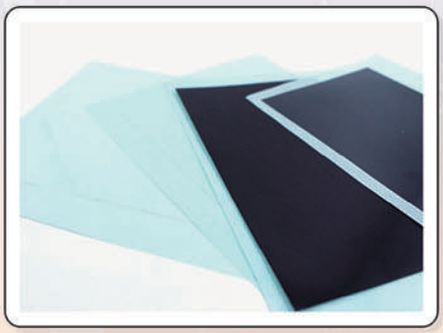


銅箔 Copper

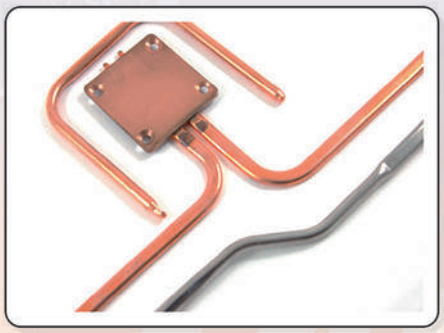
泡棉 Foam



功能性膠帶 Adhesive tape



PET 離型/保護膜 PET Mylar film



熱導管 Heat pipe

項目 Item	種類 Type
工業用功能性膠帶 Adhesive tape	單/雙面膠帶、導電膠帶、遮蔽膠帶...(NOMEX、Kapton、3M、TESA、NITTO、DIC、TERAOKA、SONY、Hi-Bon、SEKISUI...)
發泡緩衝材 Foam	一般泡棉/UL泡棉/導電泡棉...
PET離型/保護膜 PET Mylar film	黑/白/透明Mylar、靜電膜...
熱導管 Heat pipe	一般型熱導管/超薄熱導管
鋁箔Aluminum、銅箔 Copper、纖維板(FR4) Fibreboard、鐵氟龍TEFLON、尼龍Nylon...	

詳細產品資訊,請洽業務

參考資料
Reference Material

散熱方式 Heat Transferring

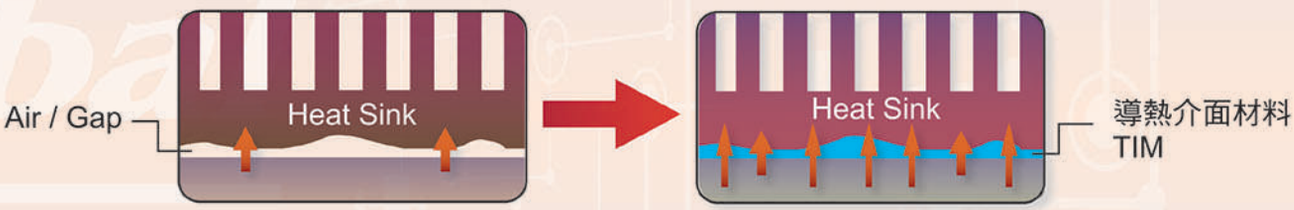
Heat Transferring 散熱方式

A. Conduction 傳導
B. Convection 對流
C. Radiation 幅射

原理 Theorem

未使用導熱介質時，兩個連接面的熱流傳導較慢，導熱效能相對較差。
若使用導熱介質連接兩個連接面時，熱流傳導速度較快也較平均，散熱效能相對提升。

Without thermal interface materials, the heat flows pass through joint faces slowly, and the thermal performance is bad.
Using thermal interface materials to link two joint faces, the heat flows pass through easily, and the thermal performance is good.



沒有良好的導熱介質時，兩個連接面上其熱流通過的路徑方式。

Heat flows pass through slowly, when it is without TIM.

具有良好的導熱介質時，兩個連接面上其熱流通過的路徑方式。

Heat flows pass quickly, when it is with TIM.

Thermal conductivities of some materials at room temperature

Material	材質	Thermal Conductivity	Material	材質	Thermal Conductivity
Diamond	鑽石	2300	Water(l)	水	0.613
Silver	銀	429	Human Skin	人類皮膚	0.37
Copper	銅	401	Wood	木頭	0.17
Gold	金	317	Helium (g)	氦	0.152
Aluminum	鋁	237	Soft Rubber	軟質橡膠	0.13
Iron	鐵	80.2	Glass Fiber	玻璃纖維	0.043
Mercury	水銀/汞	8.54	Air (g)	空氣	0.026
Glass	玻璃	1.4	Urethane, rigid foam	氨基鉀酸酯	0.026
Brick	磚	0.72			

選擇適合的導熱介面材料
Select the proper thermal interface materials

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導熱矽膠片 Thermal Pad

型號 Type	導熱係數 Thermal Conductivity
L37-3F	1.40 W/mK
L37-3L	1.50 W/mK
GT 15	1.50 W/mK
L37-5	1.60 W/mK
L37-3	1.70 W/mK
L37-5S	1.80 W/mK
H48-6S	1.80 W/mK
L37-3S	1.95 W/mK
PC93	2.00 W/mK
TG2030	2.00 W/mK
GT 20	2.00 W/mK
H48-2	2.20 W/mK
H48-2K	2.20 W/mK
GT30	3.00 W.mk
H48-6	3.20 W/mK
TG4040F	3.50 W/mK
TG4040LC	3.50 W/mK
PC94	4.00 W/mK
TG4040	4.00 W/mK
H48-6G	6.00 W/mK
TG6050	6.00 W/mK
TGX	12.00 W/mK

相變化材料 Phase Change Material

型號 Type	導熱係數 Thermal Conductivity
TG-V833	3.3 W/mK
TG-V838	3.8 W/mK

導熱膏 Thermal Grease

型號 Type	導熱係數 Thermal Conductivity
S6060B	1.8W/mK
S6060C	5 W/mK

導熱膠帶 Thermal Tape

型號 Type	導熱係數 Thermal Conductivity
Li98	0.95 W/mK
Liv2	1.00 W/mK
Li98T	1.20 W/mK
Li2000	1.20 W/mK
Li98P	1.70 W/mK
Li98C	1.80 W/mK
Li98CN	2.00 W/mK
Li2000A	2.00 W/mK

導熱膠泥 Thermal Putty

型號 Type	導熱係數 Thermal Conductivity
TG-NSP25	2.50 W/mK
TG4040 Putty	3.00 W/mK
TG6060 Putty	6.00 W/mK

封裝膠 Potting Compound

型號 Type	導熱係數 Thermal Conductivity
S720AB	0.80 W/mK
S730	2.00 W/mK
A96AB	2.50 W/mK

其他 Other materials

型號 Type	導熱係數 Thermal Conductivity
Ti900	1.80 W/mK
CP series	1.90 W/mK
PH 3	金屬層:400 W/mK 塗布:1.2 W/mk
T62	xy:400~500 W/mK z:4~20 W/mK
T68	xy:1500 W/mk z:5 W/mk
TG-P100 series	xy:1500~1800 W/mk z:12 W/mk

硬度 Shore00 0~55

型號 Type	硬度 Hardness
L37-5S	25
TG2030	30
TG4040	35
TG4040F	35
TG4040LC	35
L37-3	55
L37-3S	55

硬度 ShoreA 15~20

型號 Type	硬度 Hardness
L37-3L	15
S730	20

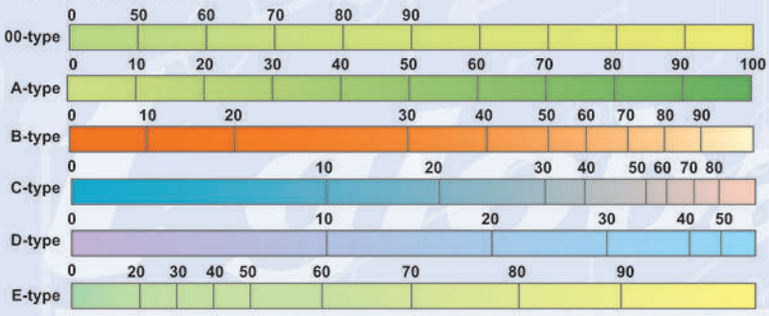
硬度 Shore00 60~65

型號 Type	硬度 Hardness
TG6050	60
PC94	60
PC93	65
TGX	65

硬度 ShoreA 25~90

型號 Type	硬度 Hardness
L37-5	25
H48-2	25
H48-6	30
H48-6G	35
S720AB	40~50
CP series	75
A96AB	80
H48-2K	85
GT series	85/85/90
H48-6S	90
L37-3F	90

硬度對照表 Hardness Table



常見問題集
FAQ

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