

TIF™ 100 Series thermally conductive interface materials are applied to fill the air gaps between the heating elements and the heat dissipation fins or the metal base. Their flexibility and elasticity make them suited to the coating of the very uneven surfaces. Heat can transmit to the metal housing or dissipation plate from the separate elements or even the entire PCB, which in effect enhances the efficiency and life-time of the heat-generating electronic components.



热传导间隙填充材料

TIF™ 100 系列热传导界面材料是填充发热器件和散热片或金属底座之间的空气间隙，它们的柔性、弹性特征使其能够用于覆盖非常不平整的表面。热量从分离器件或整个PCB传导到金属外壳或扩散板上，从而能提高发热电子组件的效率和使用寿命。

Features

- › Good thermal conductive: **1.5W/mK**
- › Naturally tacky needing no further adhesive coating
- › Soft and Compressible for low stress applications
- › Available in varies thickness

Application

- › Cooling components to the chassis of frame
- › High speed mass storage drives
- › RDRAM memory modules
- › Micro heat pipe thermal solutions
- › Automotive engine control units
- › Telecommunication hardware
- › Handheld portable electronics
- › Semiconductor automated test equipment (ATE)

特性

- › 良好的热传导率: **1.5W/mK**
- › 带自粘而无需额外表面粘合剂
- › 高可压缩性,柔软兼有弹性,适合于在低压力应用环境
- › 可提供多种厚度选择

应用

- › 散热器底部或框架
- › 高速硬盘驱动器
- › RDRAM 内存模块
- › 微型热管散热器
- › 汽车发动机控制装置
- › 通讯硬件
- › 便携式电子装置
- › 半导体自动试验设备

Typical Properties of TIF™100-U Series
TIF™100-U系列特性表

Color(顏色)	Various (各色)	Visual	Thickness (厚度)		Thermal Impedance (熱阻)@10psi
Construction & Composition (結構&成分)	Ceramic filled silicone elastomer (陶瓷填充硅橡膠)	***	10 mils	0.010 inch / 0.254 mm	0.55 °C-in ² /W
			20 mils	0.020 inch / 0.508 mm	0.82 °C-in ² /W
Specific Gravity(比重)	2.1 g/cc	ASTM D297	30 mils	0.030 inch / 0.762 mm	1.01 °C-in ² /W
			40 mils	0.040 inch / 1.016 mm	1.11 °C-in ² /W
Heat Capacity(熱容積)	1 l/g-K	ASTM C351	50 mils	0.050 inch / 1.270 mm	1.27 °C-in ² /W
			60 mils	0.060 inch / 1.524 mm	1.45 °C-in ² /W
Hardness(硬度)	10 Shore A	ASTM 2240	70 mils	0.070 inch / 1.778 mm	1.61 °C-in ² /W
			80 mils	0.080 inch / 2.032 mm	1.77 °C-in ² /W
Tensile Strength, (抗張強度)	40 psi	ASTM D412	90 mils	0.090 inch / 2.286 mm	1.91 °C-in ² /W
			100 mils	0.100 inch / 2.540 mm	2.05 °C-in ² /W
Continuous Use Temp (使用溫度範圍)	-50 to 200°C	***	110 mils	0.110 inch / 2.794 mm	2.16 °C-in ² /W
			120 mils	0.120 inch / 3.048 mm	2.29 °C-in ² /W
Dielectric Breakdown Voltage (擊穿電壓)	>1500 ~ >5500 VAC	ASTM D149	130 mils	0.130 inch / 3.302mm	2.44 °C-in ² /W
			140 mils	0.140 inch / 3.556 mm	2.56 °C-in ² /W
Dielectric Constant (介電常數)	5.5 MHz	ASTM D150	150 mils	0.150 inch / 3.810 mm	2.67 °C-in ² /W
			160 mils	0.160 inch / 4.064 mm	2.77 °C-in ² /W
Volume Resistivity (體積電阻率)	4.0X10" Ohm-meter	ASTM D257	170 mils	0.170 inch / 4.318 mm	2.89 °C-in ² /W
			180 mils	0.180 inch / 4.572 mm	2.98 °C-in ² /W
Flame Rating(防火等級)	94 V0	equivalent UL	190 mils	0.190 inch / 4.826 mm	3.05 °C-in ² /W
			200 mils	0.200 inch / 5.080 mm	3.14 °C-in ² /W
Thermal Conductivity (導熱率)	1.5 W/m-K	ASTM D5470	Visual	ASTM D751	ASTM D5470

Typical Properties of TIF™100-E Series
TIF™100-E系列特性表

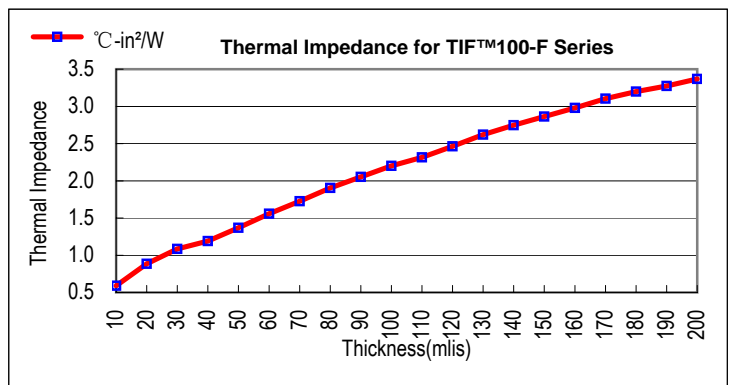
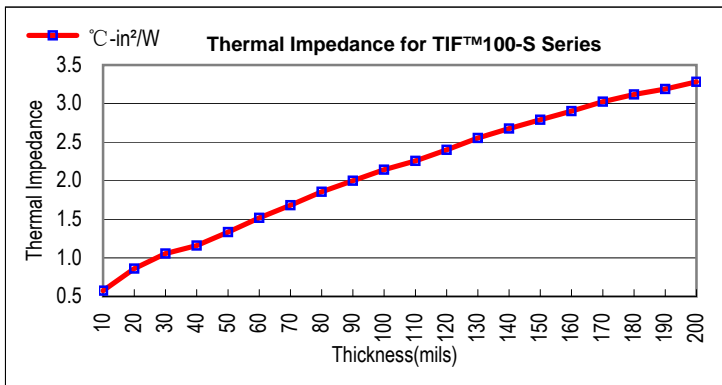
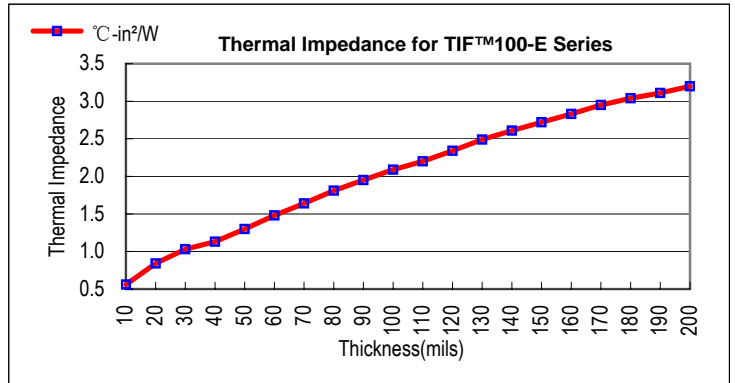
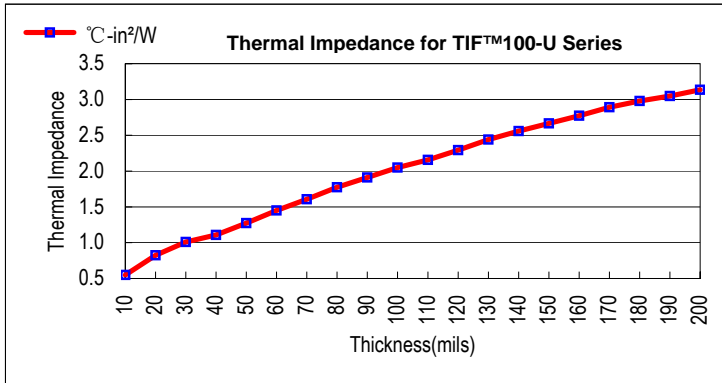
Color(顏色)	Various (各色)	Visual	Thickness (厚度)		Thermal Impedance (熱阻)@10psi
Construction & Composition (結構&成分)	Ceramic filled silicone elastomer (陶瓷填充硅橡膠)	***	10 mils	0.010 inch / 0.254 mm	0.56 °C-in ² /W
			20 mils	0.020 inch / 0.508 mm	0.84 °C-in ² /W
Specific Gravity(比重)	2.1 g/cc	ASTM D297	30 mils	0.030 inch / 0.762 mm	1.03 °C-in ² /W
			40 mils	0.040 inch / 1.016 mm	1.13 °C-in ² /W
Heat Capacity(熱容積)	1 l/g-K	ASTM C351	50 mils	0.050 inch / 1.270 mm	1.30 °C-in ² /W
			60 mils	0.060 inch / 1.524 mm	1.48 °C-in ² /W
Hardness(硬度)	15 Shore A	ASTM 2240	70 mils	0.070 inch / 1.778 mm	1.64 °C-in ² /W
			80 mils	0.080 inch / 2.032 mm	1.81 °C-in ² /W
Tensile Strength, (抗張強度)	42 psi	ASTM D412	90 mils	0.090 inch / 2.286 mm	1.95 °C-in ² /W
			100 mils	0.100 inch / 2.540 mm	2.09 °C-in ² /W
Continuous Use Temp (使用溫度範圍)	-50 to 200°C	***	110 mils	0.110 inch / 2.794 mm	2.20 °C-in ² /W
			120 mils	0.120 inch / 3.048 mm	2.34 °C-in ² /W
Dielectric Breakdown Voltage (擊穿電壓)	>1500 ~ >5500 VAC	ASTM D149	130 mils	0.130 inch / 3.302mm	2.49 °C-in ² /W
			140 mils	0.140 inch / 3.556 mm	2.61 °C-in ² /W
Dielectric Constant (介電常數)	5.5 MHz	ASTM D150	150 mils	0.150 inch / 3.810 mm	2.72 °C-in ² /W
			160 mils	0.160 inch / 4.064 mm	2.83 °C-in ² /W
Volume Resistivity (體積電阻率)	4.0X10" Ohm-meter	ASTM D257	170 mils	0.170 inch / 4.318 mm	2.95 °C-in ² /W
			180 mils	0.180 inch / 4.572 mm	3.04 °C-in ² /W
Flame Rating(防火等級)	94 V0	equivalent UL	190 mils	0.190 inch / 4.826 mm	3.11 °C-in ² /W
			200 mils	0.200 inch / 5.080 mm	3.20 °C-in ² /W
Thermal Conductivity (導熱率)	1.5 W/m-K	ASTM D5470	Visual	ASTM D751	ASTM D5470

Typical Properties of TIF™100-S Series
TIF™100-S系列特性表

Color(顏色)	Various (各色)	Visual	Thickness (厚度)		Thermal Impedance (熱阻)@10psi
Construction & Composition (結構&成分)	Ceramic filled silicone elastomer (陶瓷填充硅橡膠)	***	10 mils	0.010 inch / 0.254 mm	0.57 °C-in ² /W
			20 mils	0.020 inch / 0.508 mm	0.86 °C-in ² /W
Specific Gravity(比重)	2.1 g/cc	ASTM D297	30 mils	0.030 inch / 0.762 mm	1.06 °C-in ² /W
			40 mils	0.040 inch / 1.016 mm	1.16 °C-in ² /W
Heat Capacity(熱容積)	1 l/g-K	ASTM C351	50 mils	0.050 inch / 1.270 mm	1.33 °C-in ² /W
			60 mils	0.060 inch / 1.524 mm	1.52 °C-in ² /W
Hardness(硬度)	25 Shore A	ASTM 2240	70 mils	0.070 inch / 1.778 mm	1.68 °C-in ² /W
			80 mils	0.080 inch / 2.032 mm	1.86 °C-in ² /W
Tensile Strength, (抗張強度)	50 psi	ASTM D412	90 mils	0.090 inch / 2.286 mm	2.00 °C-in ² /W
			100 mils	0.100 inch / 2.540 mm	2.14 °C-in ² /W
Continuous Use Temp (使用溫度範圍)	-50 to 200°C	***	110 mils	0.110 inch / 2.794 mm	2.26 °C-in ² /W
Dielectric Breakdown Voltage (擊穿電壓)	>1500 ~ >5500 VAC	ASTM D149	120 mils	0.120 inch / 3.048 mm	2.40 °C-in ² /W
			130 mils	0.130 inch / 3.302mm	2.55 °C-in ² /W
Dielectric Constant (介電常數)	5.5 MHz	ASTM D150	140 mils	0.140 inch / 3.556 mm	2.68 °C-in ² /W
			150 mils	0.150 inch / 3.810 mm	2.79 °C-in ² /W
Volume Resistivity (體積電阻率)	4.0X10" Ohm-meter	ASTM D257	160 mils	0.160 inch / 4.064 mm	2.90 °C-in ² /W
			170 mils	0.170 inch / 4.318 mm	3.03 °C-in ² /W
Flame Rating(防火等級)	94 V0	equivalent UL	180 mils	0.180 inch / 4.572 mm	3.12 °C-in ² /W
			190 mils	0.190 inch / 4.826 mm	3.19 °C-in ² /W
Thermal Conductivity (導熱率)	1.5 W/m-K	ASTM D5470	200 mils	0.200 inch / 5.080 mm	3.28 °C-in ² /W
			Visual	ASTM D751	ASTM D5470

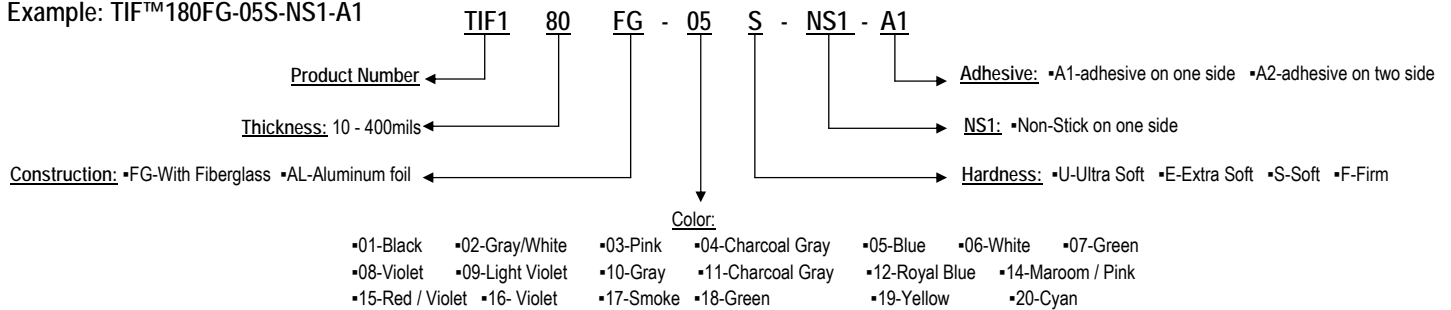
Typical Properties of TIF™100-F Series
TIF™100-F系列特性表

Color(顏色)	Various (各色)	Visual	Thickness (厚度)		Thermal Impedance (熱阻)@10psi
Construction & Composition (結構&成分)	Ceramic filled silicone elastomer (陶瓷填充硅橡膠)	***	10 mils	0.010 inch / 0.254 mm	0.59 °C-in ² /W
			20 mils	0.020 inch / 0.508 mm	0.88 °C-in ² /W
Specific Gravity(比重)	2.1 g/cc	ASTM D297	30 mils	0.030 inch / 0.762 mm	1.08 °C-in ² /W
			40 mils	0.040 inch / 1.016 mm	1.19 °C-in ² /W
Heat Capacity(熱容積)	1 l/g-K	ASTM C351	50 mils	0.050 inch / 1.270 mm	1.37 °C-in ² /W
			60 mils	0.060 inch / 1.524 mm	1.56 °C-in ² /W
Hardness(硬度)	33 Shore A	ASTM 2240	70 mils	0.070 inch / 1.778 mm	1.73 °C-in ² /W
			80 mils	0.080 inch / 2.032 mm	1.91 °C-in ² /W
Tensile Strength, (抗張強度)	60 psi	ASTM D412	90 mils	0.090 inch / 2.286 mm	2.05 °C-in ² /W
			100 mils	0.100 inch / 2.540 mm	2.20 °C-in ² /W
Continuous Use Temp (使用溫度範圍)	-50 to 200°C	***	110 mils	0.110 inch / 2.794 mm	2.32 °C-in ² /W
Dielectric Breakdown Voltage (擊穿電壓)	>1500 ~ >5500 VAC	ASTM D149	120 mils	0.120 inch / 3.048 mm	2.46 °C-in ² /W
			130 mils	0.130 inch / 3.302mm	2.62 °C-in ² /W
Dielectric Constant (介電常數)	5.5 MHz	ASTM D150	140 mils	0.140 inch / 3.556 mm	2.75 °C-in ² /W
			150 mils	0.150 inch / 3.810 mm	2.86 °C-in ² /W
Volume Resistivity (體積電阻率)	4.0X10" Ohm-meter	ASTM D257	160 mils	0.160 inch / 4.064 mm	2.98 °C-in ² /W
			170 mils	0.170 inch / 4.318 mm	3.11 °C-in ² /W
Flame Rating(防火等級)	94 V0	equivalent UL	180 mils	0.180 inch / 4.572 mm	3.20 °C-in ² /W
			190 mils	0.190 inch / 4.826 mm	3.27 °C-in ² /W
Thermal Conductivity (導熱率)	1.5 W/m-K	ASTM D5470	200 mils	0.200 inch / 5.080 mm	3.37 °C-in ² /W
			Visual	ASTM D751	ASTM D5470



Product Identification

Example: TIF™180FG-05S-NS1-A1



Standard Thicknesses (標準厚度):

0.010" (0.25mm)	0.020" (0.51mm)	0.030" (0.76mm)	0.040" (1.02mm)	0.050" (1.27mm)	0.060" (1.52mm)	0.070" (1.78mm)
0.080" (2.03mm)	0.090" (2.29mm)	0.100" (2.54mm)	0.110" (2.79mm)	0.120" (3.05mm)	0.130" (3.30mm)	0.140" (3.56mm)
0.150" (3.81mm)	0.160" (4.06mm)	0.170" (4.32mm)	0.180" (4.57mm)	0.190" (4.83mm)	0.200" (5.08mm)	

Consult the factory alternate thickness. (如需不同厚度請與本公司聯繫。)

Standard Sheets Sizes (標準片料尺寸):

10" x 16" (254mm x 406mm)

TIF™ series Individual die cut shapes can be supplied. (TIF™ 系列可模切成不同形狀提供。)

Reinforcement (補強材料):

TIF™ series sheets type can add with fiberglass reinforced. (TIF™ 系列片材可帶玻璃纖維為補強。)