

THERMAL INTERFACE MATERIALS

THERMAL PAD



INTRODUCTION

Thermal pad(Thermally conductive silicone Pad) combine high thermal conductivity with specific organic properties of heat resistance and electrical insulation. Thanks to that, thermal pad effectively transfer heat to heat sinks or outer space from heat generating components.

In computing and electronics, thermal pads are commonly found on the bottom side of heat sinks to aid conduction of heat away from the component being cooled (such as a CPU or another chip) and into the heat sink (usually made from aluminium or copper).

TECHNICAL DATA

1500 series			3000 series		
PROPERTY	VALUE	TEST METHOD	PROPERTY	VALUE	TEST METHOD
Color	Dark Gray	Visual	Color	Gray	Visual
Thickness(mm)	0.1 - 25	ASTM D374	Thickness(mm)	0.1 - 10	ASTM D374
Reinforcement Carrier	fiber glass optional		Reinforcement Carrier	fiber glass optional	
Specific Gravity	2.5	KSF 4910	Specific Gravity	2.95	KSF 4910
Hardness (Shore 00)	45± 10	ASTM D2240	Hardness (Shore 00)	60 ± 10	ASTM D2240
Continuous Use Temp.(°C)	-60°C to +200°C		Continuous Use Temp.(°C)	-60°C to +200°C	
Dielectric Breakdown Voltage(Vdc/mm)	Min. 10K	ASTM D149	Dielectric Breakdown Voltage(Vdc/mm)	Min. 10K	ASTM D149
Dielectric Constant (1000Hz)	5.5	ASTM D150	Dielectric Constant (1000Hz)	5.5	ASTM D150
Volume Resistivity (Ω-cm)	>1.6×10 ¹³	ASTM D257	Volume Resistivity (Ω-cm)	>1.6×10 ¹³	ASTM D257
Flame Rating	V-0	UL94	Flame Rating	V-0	UL94
Thermal Conductivity (W/m-K)	1.5	ASTM D5470	Thermal Conductivity (W/m-K)	3	ASTM D5470

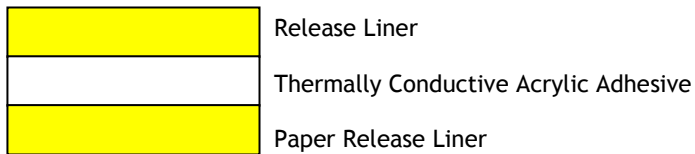
5000 series			7000 series		
PROPERTY	VALUE	TEST METHOD	PROPERTY	VALUE	TEST METHOD
Color	Gray	Visual	Color	Gray	Visual
Thickness(mm)	0.1 - 10.0	ASTM D374	Thickness(mm)	0.1 - 5.0	ASTM D374
Reinforcement Carrier	fiber glass optional		Reinforcement Carrier	fiber glass optional	
Specific Gravity	3.1	KSF 4910	Specific Gravity	3.2	KSF 4910
Hardness (Shore 00)	60 ± 10	ASTM D2240	Hardness (Shore 00)	60 ± 10	ASTM D2240
Continuous Use Temp.(°C)	-60°C to +200°C		Continuous Use Temp.(°C)	-60°C to +200°C	
Dielectric Breakdown Voltage(Vdc/mm)	Min. 6K	ASTM D149	Dielectric Breakdown Voltage(Vdc/mm)	Min. 6K	ASTM D149
Dielectric Constant (1000Hz)	5.5	ASTM D150	Dielectric Constant (1000Hz)	5.5	ASTM D150
Volume Resistivity (Ω-cm)	>1.6×10 ¹³	ASTM D257	Volume Resistivity (Ω-cm)	>1.6×10 ¹³	ASTM D257
Flame Rating	V-0	UL94	Flame Rating	V-0	UL94
Thermal Conductivity (W/m-K)	5	ASTM D5470	Thermal Conductivity (W/m-K)	7	ASTM D5470

OTHER MATERIALS COULD BE AVAILABLE UPON REQUEST

THERMAL TAPE



CONSTRUCTION



CHARACTERISTICS

- Flame Retardant V0 (Halogen Free)
- Good Thermal Conductivity
- Good Weather resistance
- Good Heat Resistance

APPLICATION

- Bonding heat sink for PCB and IC package
- Mounting of IC, GPU, heat pipe and heat sink during assembly
- Bonding heat sink on PCB(metal or FR4) for LED package

TECHNICAL DATA

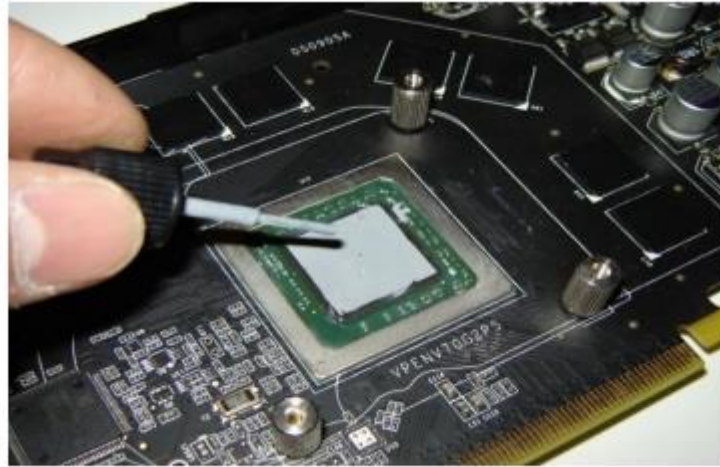
Test Item	Unit	Result				Remarks
Thickness	mm	0.25	0.4	0.6	1.0	
Colour		White	White	White	White	
Tensile Strength	kg/10mm	0.1	0.16	0.22	0.4	
Elongation	%	550	550	550	550	
Peel Adhesion	kg/25mm	1.4	1.4	1.4	1.4	180° Peel
Shear Adhesion	kg/cm ²	3.5	3.5	3.5	3.5	
Dielectric Breakdown	kV	4.0	4.0	4.0	4.0	
Flame Rating	-	V0	V0	V0	V0	Certificated UL
Holding Power	mm	0.5	0.5	0.5	0.5	
Thermal Conductivity	W/m·k	1.0	1.0	1.0	1.0	

NOTES

- The tape must be stored in a clean and dust-free place with temperature of 20-25°C without direct sunlight.
- Do not put any heavy weight above the tape.
- Ideal tape application temperature is between 20°C and 27°C.
- To obtain an optimum adhesion, bonding surface must be clean and dry.

OTHER MATERIALS COULD BE AVAILABLE UPON REQUEST

THERMAL GREASE



DESCRIPTION

Thermal Grease Compound is designed to provide a preferential heat-transfer path between heat-generating components and heat sinks or other cooling devices.

(e.g., fans, heat spreaders or heat pipes)

CHARACTERISTICS

- Excellent thermal conductivity
- Low thermal impedance
- Minimize bond line

APPLICATION

- CPU, VGA Chip-set cooler
- Power TR
- Telecommunicate Chip-set
- Chip-Set Cooler of Set Top Box
- PDP TV & LCD TV-Module + Heat sink

TECHNICAL DATA series 120

Bond Line thickness (m) (@ 20psi)	28-35
Density (g/cc)	2.3
Thermal Conductivity (W/m-K)	1.2
Thermal impedance (@ 20Psi)	0.035 °C-in ² /W
Volume Resistivity (Ohm-meter)	2.0 x 10 ¹²

TECHNICAL DATA series 300

Bond Line thickness (m) (@ 20psi)	58
Density (g/cc)	3.1
Thermal Conductivity (W/m-K)	3.0
Thermal impedance (@ 20Psi)	0.028 °C-in ² /W
Volume Resistivity (Ohm-meter)	2.0 x 10 ¹²

OTHER MATERIALS COULD BE AVAILABLE UPON REQUEST



SHIELDING SOLUTIONS