

TG Series Thermal Pads

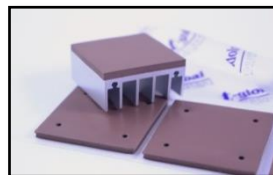


Features : Electrical insulation
Good thermal conductivity
Soft, and high compressibility
Natural tack
Low hardness
Low oil bleed- long term stability

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	TG2030	TG4040	TG4040LC	TG4040F	TG6050	TGX	Method
Color	-	White	Blue	Blue	Blue	Red	Gray	Visual
Thickness	mm	0.5~5.0	0.5~5.0	0.3~5.0	0.5~5.0	0.5~5.0	0.5~2.0	ASTM D374
Thermal Conductivity	W / mK	2	4	3.5	4	6	12	ASTM D5470
Flame Rating	-	V-0	V-0	V-0	V-0	V-0	V-0	UL 94
Breakdown Voltage	KV / mm	16	15	4	15	13	12	ASTM D149
Weight Loss	%	<1	<1	<0.4	<1	<1	<1	ASTM E595
Specific Gravity	g / cm ³	2.4	2.8	2.6	2.8	3.2	3.4	ASTM D792
Working Temperature	°C	-45~+200	-45~+200	-45~+200	-45~+200	-45~+200	-45~+200	-
Volume Resistance	Ohm-cm	>10 ¹²	>10 ¹²	>10 ¹¹	>10 ¹²	>10 ¹²	>10 ¹¹	ASTM D257
Elongation	%	300	100	100	100	50	-	ASTM D412
Tensile Strength	Kgf / cm ²	1	1	60	1	0.5	-	ASTM D412
Standard Shape		Sheet ones						Sheet ones
Hardness	Shore 00	30	35	40	35	60	65	ASTM D2240

H48 Series Thermal Pads



Features : Great thermal conductivity
Soft, and high compressibility
Easy to assemble
Natural tack
Electrical insulation

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	H48-2	H48-2K	H48-6	H48-6A	H48-6G	H48-6S	Method
Color	-	Dark Red	Dark Red	Dark Gray	Henna	Gray	Dark Red	Visual
Thickness	mm	0.3~20	0.1/0.2/0.3	0.3~20	0.3~20	0.3~5.0	0.23	ASTM D374
Thermal Conductivity	W / mK	2.2	2.2	3.2	4	6	1.8	ASTM D5470
Flame Rating	-	V-0	V-0	V-0	V-0	V-0	V-0	UL 94
Breakdown Voltage	KV / mm	5	1.2/2.5/3.5	2	2	13	7	ASTM D149
Weight Loss	%	<1	<0.5	<1	<1	<1	<1	ASTM E595
Specific Gravity	g / cm ³	2.43	2.4	2.42	2.48	3.09	1.95	ASTM D792
Working Temperature	°C	-40~+200	-45~+200	-40~+200	-40~+200	-40~+200	-40~+200	-
Volume Resistance	Ohm-cm	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹²	>10 ¹²	ASTM D257
Elongation	%	282	50	130	120	60	0.2	ASTM D412
Tensile Strength	Kgf / cm ²	7	-	8	8	6	66.5	ASTM D412
Standard Shape		Sheet ones						Sheet ones
Hardness	Shore A	25	85	30	25	35	90	ASTM D2240

L37 Series Thermal Pads

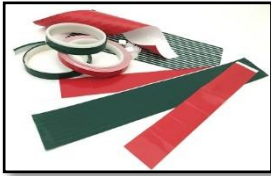


Features : Great thermal conductivity
Soft, and high compressibility
Easy to assemble
Natural tack
Electrical insulation

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	L37-3	L37-3F	L37-3S	L37-3L	L37-5	L37-5S	Method
Color	-	Yellow	Yellow	Yellow	Yellow	Gray	Gray	Visual
Thickness	mm	0.3~20	0.25/0.3/0.45	0.3~20	0.5~10	0.3~20	0.5~5.0	ASTM D374
Thermal Conductivity	W / mK	1.7	1.4	1.95	1.5	1.6	1.8	ASTM D5470
Flame Rating	-	V-0	V-0	V-0	V-0	V-0	V-0	UL 94
Breakdown Voltage	KV / mm	>10	3/4/5	>13	15	>10	16	ASTM D149
Weight Loss	%	<1	<1	<1	<0.2	<1	<1	ASTM E595
Specific Gravity	g / cm ³	2.17	2	2.21	2.4	2.38	2.4	ASTM D792
Working Temperature	°C	-40~+200	-40~+200	-40~+200	-45~+200	-40~+200	-45~+200	-
Volume Resistance	Ohm-cm	>10 ¹²	>10 ¹³	>10 ¹²	>10 ¹¹	>10 ¹²	>10 ¹²	ASTM D257
Elongation	%	-	5	350	20	300	300	ASTM D412
Tensile Strength	Kgf / cm ²	66.4	150	8	-	12	1	ASTM D412
Standard Shape		Sheet ones						Sheet ones
Hardness	Shore	Shore 00 55	Shore A 90	Shore 00 55	Shore A 15	Shore A 25	Shore 00 25	ASTM D2240

Li Series Thermal Tapes

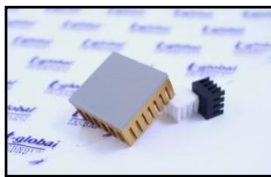


Features : Good adhesion
 High thermal conductivity
 Soft and compressibility
 Easy to assemble

Applications : Electronic components: IC, CPU, MOS
 LED, M/B, P/S, Heat Sink,
 LCD-TV, Notebook, PC, Telecom Device,
 Wireless Hub,.....etc. DDR II Module,
 DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	Li98	Li98C	Li98CN	Li98P	Liv2	Li2000	Li2000A	Method
Color	-	White	White	White	White	White	White	White	Visual
Thickness	mm	0.15/0.25		0.18	0.125/0.14	0.15/0.25	0.15/0.25	0.2	ASTM D374
Reinforcement Carrier	-	Fiberglass		-	Polyimide	玻纖 Fiberglass		-	-
Thermal Conductivity	W/m.K	0.95	1.8	2	1.7	1.0	1.2	2	ASTM D5470
Density	g/cm ³	1.85	1.8	1.8	1.3/1.2	1.85	1.6	2.3	ASTM D792
Breakdown Voltage (Vac)	kV	2/3	2/3	5	4/5	2/3	2/3	>3.5	ASTM D149
Breakdown Voltage (Vdc)	kV	3/4	3/4	6	5/6	3/4	3/4	>4.5	ASTM D149
Working Temperature	°C	-30~120			-30~120	-30~120	-45~170	-45~170	-
Short Time Use Temp. (30sec)	°C	200			250	180	288	260	-
Thermal Impedance @10psi	°Cin ² /W	0.96/1.3	0.66/0.92	0.75	0.8/0.9	0.78/1.3	0.70/1.17	0.71	ASTM D5470
Thermal Impedance @50psi	°Cin ² /W	0.63/1.1	0.55/0.9	0.68	0.75/0.81	0.65/1.1	0.63/1.07	0.51	ASTM D5470
Initial Tack	cm	10/8	14/2	15	15	11/10	10	>30	PSTC-6
Lap Shear Strength	N/cm ²	61	55/50	55	63/62	60	74/76	35	ASTM D1002
Tensile Strength	psi	200/400	200/400	-	500/600	200/400	450/650	-	ASTM D412
Die Shear Strength @25°C	N/cm ²	120	109/100	100	115	120	113/126	60	-
Die Shear Strength @80°C	N/cm ²	69	68	55	66/64	69	80/85	50	-
Holding Power 1000g@25°C using 1 in ²	min				>10000			>40000	PSTC-7
Holding Power 1000g@80°C using 1 in ²	min				>10000			>40000	PSTC-7
90° Peeling Strength (Aluminum)	N/inch	>10/>12	>6/>8	>8	>10	>15/>16	-	-	ASTM D3330

PC Series Non-Silicone Thermal Pads

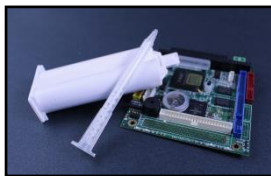


Features : Low contact thermal impedance
 Good thermal conductivity
 Silicone free
 Long term stability

Applications : Electronic components: IC, CPU, MOS
 LED, M/B, P/S, Heat Sink,
 LCD-TV, Notebook, PC, Telecom Device,
 Wireless Hub,.....etc. DDR II Module,
 DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	PC93	PC94	Method
Color	-	Gray	Red	Visual
Thickness	mm	0.5~5.0	0.5~5.0	ASTM D374
Thermal Conductivity	W / mK	2	4	ASTM D5470
Flame Rating	-	V-0	V-0	UL94
Breakdown Voltage	KV / mm	10	10	ASTM D149
Weight Loss	%	<1	<1	ASTM E595
Specific Gravity	g / cm ³	2.1	2.5	ASTM D792
Working Temperature	°C	-30~125	-30~125	-
Volume Resistance	Ohm-cm	>10 ¹²	10 ¹⁰	ASTM D257
Elongation	%	350	100	ASTM D412
Tensile Strength	Kgf / cm ²	1	2	ASTM D412
Standard Shape		Sheet ones		Sheet ones
Hardness	Shore 00	65	60	ASTM D2240

Thermal Gel



Features : High thermal conductivity
 Long term stability

Applications : Electronic components: IC, CPU, MOS
 LED, M/B, P/S, Heat Sink,
 LCD-TV, Notebook, PC, Telecom Device,
 Wireless Hub,.....etc. DDR II Module,
 DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	A96AB	S720AB	S730	Method
Color	-	White/Black	White	Gray	Visual
Thermal Conductivity	W / mK	2.5	0.8	2.0	ASTM D5470
Breakdown Voltage	KV	10	6	>12	ASTM D149
Weight Loss	%	<1	<1	-	ASTM E595
Specific Gravity	g / cm ³	1.8	1.97	2.5	ASTM D792
Working Temperature	°C	-25~150	-40~180	-50~200	-
Viscosity	Cps	1800~2500	2000~3000	<50000	ASTM D2393
Standard Package	Pot/Tube	1KG	1KG	100g/1KG	-
Hardness	Shore A	80	40~50	20	ASTM D2240

GT Series Thermal Pads



Features : Smooth surface & low contact resistance
Great thermal performance at low pressure
Usable over wide range of temp.
Electrical insulation
Complies with UL standards

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	GT15	GT20	GT30	Method
Color	-	Yellow	Green	Pink	Visual
Thickness	mm	0.23	0.3	0.35	-
Thermal Conductivity	W / mK	1.5	2.0	3.0	ASTM D5470
Flame Rating	-	V-0	V-0	V-0	UL 94
Breakdown Voltage	KV / mm	4	4	3	ASTM D149
Weight Loss	%	<0.2	<0.2	<0.2	ASTM E595
Specific Gravity	g / cm ³	2.3	2.6	2.8	ASTM D792
Working Temperature	°C	-45~180	-45~180	-45~180	-
Volume Resistance	Ohm-cm	>10 ¹¹	>10 ¹¹	>10 ¹¹	ASTM D257
Elongation	%	60	60	30	ASTM D412
Tensile Strength	Kgf / cm ²	200	200	100	ASTM D412
Standard Shape		Sheet ones			Sheet ones
Hardness	Shore A	90	85	85	ASTM D2240

Thermal Putty



Features : High thermal conductivity
Compressibility
Low thermal resistance
Great for North Bridge IC

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Specification	Unit	TG-NSP25	TG4040 PUTTY	Method
Material	-	Silicone-free	Silicone-type	-
Color	-	Gray	Blue	Visual
Solid Content	%	100(one-part)	100(one-part)	-
Thermal Conductivity	W / mK	2.5	3.0	ASTM D5470
Viscosity 0.5rpm	Pa·s	5,000	3,000	Brookfield
Density	g / cm ³	2.6	3.0	ASTM D792
Low MW Siloxane(D4-10)	ppm	0	50	GC/MS
TML	%	0.2	0.3	ASTM E595
CVCM	%	0.1	0.09	ASTM E595
Volume Resistivity	Ohm-cm	10 ¹⁴	10 ¹⁴	ASTM D257
Working Temperature	°C	-50~150	-50~180	-
Standard Package	Pot/Tube	78g/143g/1KG	90g/165g/1KG	-

CP Series Thermal Cap



Features : Low thermal contact resistance
Electrical insulation

Applications : Electronic components: IC, CPU, MOS
LED, M/B, P/S, Heat Sink,
LCD-TV, Notebook, PC, Telecom Device,
Wireless Hub,.....etc. DDR II Module,
DVD Applications, Hand-set Applications,.....etc.

Standard sizes (mm) :

1. CP22 TO-220: 11.4x16x5.8
2. CP23 TO-220: 11.4x21.5x5.8
3. CP33 TO-247: 17.5x28.5x5.8

Specification	Unit	CP22/CP23/CP33	Method
Material	-	Silicone	-
Color	-	Gray	Visual
Thickness	mm	0.3 / 0.45	-
Thermal Conductivity	W / mK	1.9	ASTM D5470
Breaking Voltage (Vac)	KV	4 / 6	ASTM D149
Breaking Voltage (Vdc)	KV	6 / 8	ASTM D149
Dielectric Constant	1000Hz	5.8	ASTM D150
Flame Rating	-	V-0	UL94
Density	g / cm ³	2.55	ASTM D792
Working Temperature	°C	-45~180	-
TML	%	<0.2	ASTM E595
Hardness	Shore A	75	ASTM E595

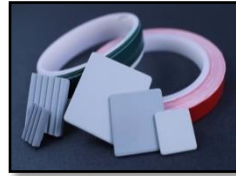
Ti900 Thermal Insulators



- Features** : Electrical insulation
Low thermal impedance
Easy to assemble
- Applications** : Electronic components: IC, CPU, MOS, LED, M/B, P/S, Heat Sink, LCD-TV, NB, PC, Telecom Device, Wireless Hub, DDR II Module, DVD Applications, Hand-set Applications, etc.

Specification	Unit	Ti900	Method
Color	-	Gray	Visual
Thickness	mm	0.12	-
Base	-	Polyimide	ASTM D5470
Thermal Conductivity	W / mK	1.8	ASTM D374
ThermalResistance@10psi	K in ² / W	0.852	ASTM D5470
ThermalResistance@30psi	K in ² / W	0.508	ASTM D5470
ThermalResistance@50psi	K in ² / W	0.402	ASTM D5470
Breaking Voltage (Vac)	KV	6	ASTM D149
Volume Resistance	Ohm-cm	>10 ¹²	ASTM D257
Working Temperature	°C	-50~180	-
Tensile Strength	psi	5000	ASTM D412
Elongation	%	40	ASTM D412
Flame Rating	-	V-0	UL94

XL-25 Ceramic Heat Spreaders



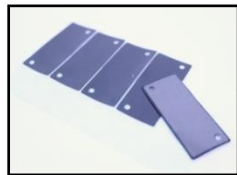
- Features** : Large contact area
Low weight
High voltage breakdown
High resistance
Easy to assemble
Good heat transferring
- Applications** : Electronic components: IC, CPU, MOS, LED, M/B, P/S, Heat Sink, LCD-TV, NB, PC, Telecom Device, Wireless Hub, DDR II Module, DVD Applications, Hand-set Applications, etc.

Size (mm)

- 10x10x2.0 (Flat)
- 15x15x2.0 (Flat)
- 15x15x2.5 (Flat)
- 20x15x2.0 (Flat)
- 20x20x2.0 (Flat)
- 20x20x2.5 (Flat)
- 38x38x11.5 (Fin)
- 30x30x2.0 (Flat)
- 30x30x2.5 (Flat)
- 40x40x2.0 (Flat)
- 40x40x2.5 (Flat)
- 40x40x3.0 (Dots)
- 25x25x5.0 (Fin)
- 50x50x3.0 (Dots)

Specification	Unit	XL-25	Method
Color	-	Green/Gray	Visual
Thermal Conductivity	W / mK	6.79	-
Breaking Voltage	V	500	ASTM D149
Specific Gravity	g / cm ³	1.89	CNS 619
Surface Resistance	Ohm	>10 ⁸	ASTM D257
Flexural Strength	Kgf / cm ²	47.5	CNS 12701
Porosity	%	30	CNS 619
Working Temperature	°C	<500	-
Linear Temperature Expansion Coefficient	10 ⁻⁶	4.13	RT~300°C
Main Composition	-	SiC/Al ₂ O ₃ /SiO ₂	-
Hardness	Moh's	5~6	DIN En101-1992

T68 Artificial Graphite Sheets



- Features** : Great thermal conductivity: 1500W/m.K
Electrical insulation
Ultra thin; low mass
Environmental friendly
Low contact resistance
- Applications** : Electronic components: IC, CPU, MOS, LED, M/B, P/S, Heat Sink, LCD-TV, NB, PC, Telecom Device, Wireless Hub, DDR II Module, DVD Applications, Hand-set Applications, etc.

Specification	Unit	T68	Method
Thickness	µm	25	Micrometer
Thermal Conductivity	XY axis	W / mK	1500
	Z axis	W / mK	5
Thermal Diffusivity	cm ² / S	8.5	AC calorimeter
Density	g / cm ³	2.1	Archimedes law
Electrical Conductivity	S / cm	13000	JIS K7194
Curvature	-	Flexible	MIT
Heat Resistance	°C	400	AC calorimeter
Heat Capacity (SHC)	J / g-K	0.895	-

PH3 Heat Spreaders



- Features** : Large temp. reduction
Long term stability
Easy to assemble
- Applications** : Electronic components: IC, CPU, MOS, LED, M/B, P/S, Heat Sink, LCD-TV, NB, PC, Telecom Device, Wireless Hub, DDR II Module, DVD Applications, Hand-set Applications, etc.



Specification	Unit	PH3
Color	-	Black
Thickness	mm	0.06/0.11/0.21
Insulator	-	Polyester
Thermal Conductor	-	Copper
Pressure-sensitive Adhesive	-	Acrylic PSA
Metal Layer Thermal Conductivity	W/m.K	400
Coating Layer Thermal Conductivity	W/m.K	1.2
Volume Resistance	Ωcm	10 ¹²
Working Temperature	°C	-30~120
Initial Tack	cm	18/15/11
30° Peeling Strength (Aluminum)	N/in	8/10/12
Breaking Voltage(AC)	KV	2/2/3