

[Products / Interface Materials / Pads](#)

## Pads

[In-Sil-8](#) [RoHS Compliant!](#)

[T-gard™ 500](#) [RoHS Compliant!](#)

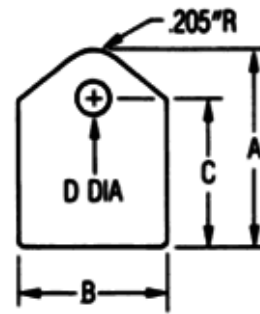
[Thermalsil™ III](#) [RoHS Compliant!](#)

Thermal interface pads are thicker than double-sided tapes, but can be provided without adhesive if removal of the pad may be necessary. Pads can also be either electrically conductive or isolating. Performance of the interface pad is dependent on maintenance of correct, constant mounting pressure.

### **In-Sil-8**

[Standard Pads](#)

When you need thermal conductance and electrical isolation in one package, In-Sil-8 Pads offer you the best of both. These silicone-based insulators come with thermally conductive fillers to isolate up to 6000 volts AC. In-Sil-8 pads withstand the rigors of assembly, harsh environments, and aging under continuous use. You'll save time with these cost-effective pads too: installation is 4 times faster than mica and grease, and they won't contaminate solder baths. Order In-Sil-8 Pads with or without pressure-sensitive adhesive, and in standard or custom shapes.



### Ordering Information

In-Sil-8 pads have 12 digit ordering numbers. The 1st - 4th digits are listed in this chart, the 5th & 6th digits indicate standard configurations, and the last 6 digits are F00000. The 5th and 6th digit ordering codes along with the part dimensions are listed in the code column on the [standard pads page](#).

Part Numbers (With adhesive factory applied to one side)	1886 (1896)	1887 (1897)	1888 (1898)	1889 (1899)
Color	Grey	Rust	Grey	Grey
Thickness (inch)	0.006	0.009	0.007	0.009
Thickness (mm)	0.15	0.23	0.18	0.23
Thermal Res. (°C/W)				
TO-3	0.40	0.21	0.33	0.50
TO-220	1.40	0.63	1.25	1.50
TO-218	0.93	0.49	0.77	1.16
Breakdown Voltage	6000	5000	4000	5000
Dielectric Constant	5.5	4.5	5.5	5.5

## T-gard™ 500

T-gard™ 500 is the recommended replacement for A-Dux

T-gard™500 is a medium thermal performance insulator pad consisting of a ceramic filled high temperature silicone rubber coated on electrical grade fiberglass. T-gard™ 500 is designed for applications that require additional thickness to prevent electrical shorts from stamped aluminum heatsinks used in switching mode power supplies (SMPS) and debris from aluminum castings used in automotive motor controls. T-gard™ 500 is used in applications that require interface of 2.5°C/watt or higher on a TO-220 mounted @ 50 psi pressure.

### Electrical Properties

Properties	Test Method	Metric Values	Imperial Values
Dielectric with stand voltage	ASTM D149	4,500 volts AC	4,500 volts AC
Dielectric Breakdown voltage	ASTM D149	>6,000 volts AC	>6,000 volts AC
Volume Resistivity	ASTM D257	>10 <sup>12</sup> ohm-cm	>10 <sup>12</sup> ohm-in
Dielectric Constant @ 1 MHz	ASTM D257	3.3	3.3
Electrical RTI Temperature rating	UL 746D	150°C	302°F

### Total Thermal Resistance

Pressure, psi (kPa)	Units	10 (69)	25 (172)	50 (345)	100 (689)	200 (1379)	400 (2758)

Modified ASTM D5470	°C- in <sup>2</sup> / watt	0.6	0.55	0.45	0.40	0.35	0.35
Modified ASTM D5470	°C- cm <sup>2</sup> / watt	3.9	3.2	2.9	2.6	2.3	2.3
TO-220	°C/ watt	2.9	2.6	2.4	2.2	2.0	2.0

### Mechanical Properties

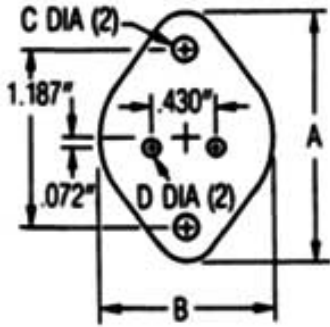
Properties	Test Method	Metric Values	Imperial Values
Thickness		0.23 mm	0.009 inch
Hardness	ASTM D2240	85 Shore A	85 Shore A
Tensile Strength	ASTM D412	1.3 kpsi	9 mPa
Elongation @45° to Warp/Fill	ASTM D412	20%	20%
Elongation along width or length	ASTM D412	5%	5%
Mechanical RTI Temperature rating	UL 746D	150°C	302°F
Color		Dark Pink	Dark Pink
UL Flammability Rating	UL 94	V-0	V-0

# In-Sil-8

## Standard sizes

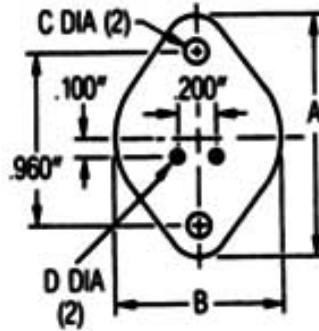
The standard sizes listed on this page are examples of some of the widely used hole patterns for In-Sil-8 Pads. Other shapes and hole patterns are available.

For TO-3



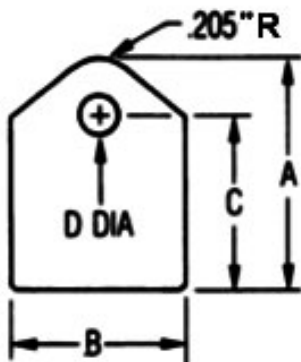
Codes	"A" Dim	"B" Dim	"C" Dim	"D" Dim
23	1.593	1.100	.156	.062
05	1.650	1.140	.140	.093
02	1.780	1.250	.140	.093
04	1.650	1.140	.122	.062
24	1.700	1.187	.156	.062
07	1.780	1.250	.165	.094

For TO-66

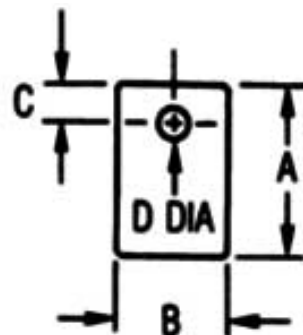


Codes	"A" Dim	"B" Dim	"C" Dim	"D" Dim
11	1.312	.762	.140	.062
30	1.250	.700	.140	.062

For TIP Packages



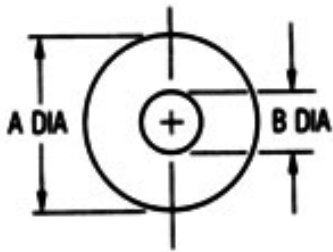
For TO-220, TO-218 & TO-247



Codes	"A" Dim	"B" Dim	"C" Dim	"D" Dim
65	1.260	.787	.984	.142
53	.865	.650	.650	.140
73	.984	.787	.708	.142

Codes	"A" Dim	"B" Dim	"C" Dim	"D" Dim
60	.437	.312	.140	.122
51	.687	.562	.218	.125
35	.710	.500	.160	.141
58	.750	.500	.187	.125
54	.750	.500	.187	.147
61	.750	.410	.225	.156
90	.860	.740	.200	.160

### For Stud Mounted Devices



	Codes	"A" Dim	"B" Dim
DO-4	22	.625	.200
	20	.510	.200
DO-5	21	.800	.260
	25	1.000	.260

To order a part with a factory applied pad, indicate the appropriate ordering code in the 8th position of the part number. The shape and hole pattern of the heat sink will determine the shape and hole pattern of the pad.

If you are ordering a heat sink which mounts a semiconductor on both sides, the ordering code for two pads should be used.

#### 8th position ordering codes

- 0 = No Pads
- 3 = One In-Sil-8 Pad
- 4 = Two In-Sil-8 Pads

**For TO-3**

**For TO-218**

**For TO-220**

