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# Thermasil III - Insulating Pads & Films

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**RoHS Compliant**

Thermally Conductive Silicone Rubber Insulators

Composed of a silicone elastomer binder with a thermally conductive filler, Thermasil III's formula has been fully optimized for thermal conductivity. The electrically insulating pads are reinforced with finely woven glass cloth to resist tearing due to burrs and to enhance thermal resistance.

Thermasil III eliminates the need for grease application and conforms to mounting surfaces under clamping pressure for optimum heat conduction.

**AVAILABLE SIZES:**

Thermasil III is available in standard sizes for TO-3, TO-218 and TO-220 devices as well as in washer and 328ft bulk rolls. The Bulk rolls are offered in three different widths with and without adhesive backing

Any configuration is also available with adhesive backing. Order by adding "AC" after the part number. For example: 53-03-2AC

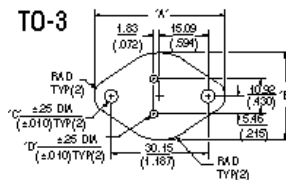
**Bulk Thermasil III**

Thermasil III is also available in three widths, with and without adhesive coated backing (AC). Thermasil III is 0.152mm (0.006") thick.

| Part No.*     | RoHS                  | PCN | Width             |
|---------------|-----------------------|-----|-------------------|
| 5300 1.500G   | RoHS <b>Compliant</b> | N/A | 38.10mm (1.500")  |
| 5300AC 1.500G | RoHS <b>Compliant</b> |     | 38.10mm (1.500")  |
| 5300 2.875G   | RoHS <b>Compliant</b> | N/A | 76.20mm (3.000")  |
| 5300AC 2.875G | RoHS <b>Compliant</b> | N/A | 76.20mm (3.000")  |
| 5300 6.000G   | RoHS <b>Compliant</b> | N/A | 152.40mm (6.000") |
| 5300AC 6.000G | RoHS <b>Compliant</b> | N/A | 152.40mm (6.000") |

\*Available in full (328 ft.) length rolls only

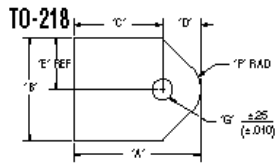
**Standard Thermasil Configurations**



| Part Number | RoHS                  | PCN | A             | B             | C            | D            |
|-------------|-----------------------|-----|---------------|---------------|--------------|--------------|
| 53-03-2G    | RoHS <b>Compliant</b> |     | 42.04 (1.655) | 27.00 (1.063) | 3.96 (0.156) | 1.57 (0.062) |
| 53-03-11G   | RoHS <b>Compliant</b> | N/A | 41.81 (1.646) | 28.58 (1.125) | 3.96 (0.156) | 2.36 (0.093) |
| 53-03-12G   | RoHS <b>Compliant</b> | N/A | 41.91 (1.650) | 28.96 (1.140) | 3.56 (0.140) | 2.36 (0.093) |
|             |                       |     | 39.70         | 26.67         | 3.56         | 2.36         |

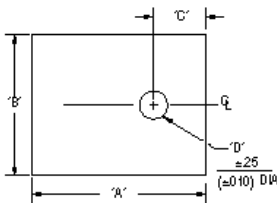
Thermasil III - Insulating Pads & Films - heat sink interface material

|           |                   |     |                  |                  |                 |                 |
|-----------|-------------------|-----|------------------|------------------|-----------------|-----------------|
| 53-03-14G | RoHS<br>Compliant | N/A | (1.563)          | (1.050)          | (0.140)         | (0.093)         |
| 53-03-15G | RoHS<br>Compliant | N/A | 40.46<br>(1.593) | 27.94<br>(1.100) | 3.96<br>(0.140) | 1.78<br>(0.070) |
| 53-03-16G | RoHS<br>Compliant | N/A | 43.18<br>(1.700) | 30.15<br>(1.187) | 3.96<br>(0.156) | 1.60<br>(0.063) |



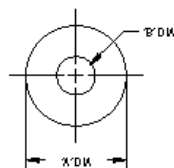
| Part Number     | A                | B                | C                | D               | E               | F               | G               |
|-----------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|
| 53-02-95G       | 23.24<br>(0.915) | 18.80<br>(0.740) | 16.26<br>(0.640) | 6.99<br>(0.275) | 9.40<br>(0.370) | 5.59<br>(0.220) | 3.66<br>(0.144) |
| 53-02-103G**    | 23.80<br>(0.937) | 19.05<br>(0.750) | 16.66<br>(0.656) | 7.14<br>(0.281) | 9.53<br>(0.375) |                 | 3.18<br>(0.125) |
| 53-78-3G*<br>** | 25.40<br>(1.000) | 20.32<br>(0.800) |                  |                 |                 |                 |                 |

TO-220



| Part Number | RoHS              | PCN | A                | B                | C               | D               |
|-------------|-------------------|-----|------------------|------------------|-----------------|-----------------|
| 53-77-2G    | RoHS<br>Compliant |     | 17.50<br>(0.687) | 14.27<br>(0.562) | 5.54<br>(0.218) | 3.18<br>(0.125) |
| 53-77-3G    | RoHS<br>Compliant |     | 17.50<br>(0.687) | 41.27<br>(0.562) | 4.70<br>(0.185) | 2.36<br>(0.093) |
| 53-77-4G    | RoHS<br>Compliant |     | 19.05<br>(0.750) | 12.70<br>(0.500) | 4.75<br>(0.187) | 3.73<br>(0.147) |
| 53-77-5G    | RoHS<br>Compliant | N/A | 20.32<br>(0.800) | 15.24<br>(0.600) | 5.54<br>(0.218) | 2.79<br>(0.110) |
| 53-77-9G    | RoHS<br>Compliant | N/A | 18.42<br>(0.725) | 13.21<br>(0.520) | 4.32<br>(0.170) | 2.92<br>(0.115) |
| 53-77-10G   | RoHS<br>Compliant | N/A | 20.96<br>(0.825) | 22.99<br>(0.905) | 5.33<br>(0.210) | 3.68<br>(0.145) |
| 53-77-11G   | RoHS<br>Compliant | N/A | 26.16<br>(1.030) | 13.21<br>(0.520) | 3.81<br>(0.150) | 3.30<br>(0.130) |
| 53-77-13G   | RoHS<br>Compliant | N/A | 18.03<br>(0.710) | 12.70<br>(0.500) | 4.06<br>(0.160) | 3.58<br>(0.141) |
| 53-78-1G*   | RoHS<br>Compliant | N/A | 22.10<br>(0.870) | 15.70<br>(0.620) |                 |                 |

WASHER



| Part Number | A             | B            |
|-------------|---------------|--------------|
| 53-02-10G   | 14.27 (0.562) | 5.16 (0.203) |
| 53-02-25G   | 20.62 (0.812) | 6.73 (0.266) |

\* This insulator is made especially for clip-mount heat sinks, thus requiring no mounting hole.  
 \*\* These insulators may also be used for TO-3P and TO-247 devices.

### Thermalsil III

| Property                      | Typical Value 25°C                             | Test Method          |
|-------------------------------|--|----------------------|
| <b>Electrical</b>             |  |                      |
| Dielectric Constant           | 2.5@50 Hz<br>2.5@103 Hz<br>2.5@106 Hz          | ASTM D150            |
| Dielectric Breakdown Voltage  | 26.3 x 103 volts/mm (667 volts/mil) ASTM D-149 | ASTM D149            |
| Volume Resistivity            | 5.7 x 10 <sup>15</sup> ohm-cm                  | ASTM D257            |
| Dielectric Dissipation Factor | .008@50 Hz<br>.004 @103 Hz<br>.004 @106 Hz     | ASTM D150            |
| <b>Physical</b>               |  |                      |
| Thickness                     | .15 + .03/-0.05mm<br>(0.006 + .001/-0.002 in.) |                      |
| Color                         | Gray-Green                                     |                      |
| Tensile Strength              | 6.1 x 10 <sup>7</sup> Pa (8786 psil)           |                      |
| Hardness, Shore A             | 87   |                      |
| Elongation                    | 2% or less                                     |                      |
| <b>Thermal</b>                |  |                      |
| Thermal Conductivity          | 0.92 w/m °C                                    |                      |
| Flame Resistance              | UL 94V-0                                       | UL card #E-58126 (S) |
| Service Temperature           | -60°C to 180°C<br>(-76°F to 356°F)             |                      |

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