The C600 is specifically designed for phase control applications and processed by multidiffusion, utilizing 40mm diameter silicon and a unique pilot gate. It is supplied in a disk package ready to mount using commercially available heat dissipators and mechanical clamping hardware.

### Maximum Allowable Ratings

<table>
<thead>
<tr>
<th>Type</th>
<th>V_{DRM}/V_{RSM} Repetitive T_J = -40°C to +125°C</th>
<th>Transient Peak Reverse Voltage (Non-Recurent &lt; 5 Millisecons) V_{RSM} T_J = -40°C to +125°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>C600E</td>
<td>500 Volts</td>
<td>600 Volts</td>
</tr>
<tr>
<td>C600M</td>
<td>600</td>
<td>600 Volts</td>
</tr>
<tr>
<td>C600S</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>C600N</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>C600T</td>
<td>900</td>
<td>900</td>
</tr>
<tr>
<td>C600P</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>C600PA</td>
<td>1100</td>
<td>1100</td>
</tr>
<tr>
<td>C600PB</td>
<td>1200</td>
<td>1200</td>
</tr>
</tbody>
</table>

Average Forward Current, On-State .............. Depends on conduction angle
Peak One-Cycle Surge ON-state Current, I_{TSM} ................................................. 13000 amperes
Maximum Rate of Rise of Anode Current Turn-on Interval
(Switching Rates ≤ 400 Hz). ...... Switch From ≤ 600 V ......................... 150 A/μsec
See Recommended Load Line Fig. 11 Switch From ≤ 1000V ......................... 125 A/μsec

I^*t (for fusing) (at 8.3 milliseconds) ................................................. 700,000 ampere^2 seconds
Peak Gate Power Dissipation, P_{GM} .................... 40 Watts
Average Gate Power Dissipation, P_{G(AV)} .................. 5 Watts
Peak Reverse Gate Voltage, V_{GRM} ...................... 5 Volts
Storage and Operating Temperature, T_{STG} & T_i .................. Refer Above
Mounting Force Required ................................. 4000 lbs. ± 10%
<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEST</strong></td>
</tr>
<tr>
<td>Peak Reverse and Forward Blocking Current</td>
</tr>
<tr>
<td>Peak Reverse and ON-state Blocking Current</td>
</tr>
<tr>
<td>Effective Thermal Resistance (DC), $R_{DSS}$ (See Note)</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Critical Exponential Rate of Rise of Forward Blocking Voltage (Higher values may cause device switching)</td>
</tr>
<tr>
<td>Holding Current</td>
</tr>
<tr>
<td>Delay Time</td>
</tr>
<tr>
<td>Gate Pulse Width Necessary to Trigger</td>
</tr>
<tr>
<td>Gate Trigger Current</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Gate Trigger Voltage</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Peak On-Voltage</td>
</tr>
<tr>
<td>Circuit Commutated Turn-Off Time</td>
</tr>
</tbody>
</table>

**NOTE:** $T_C = $ Sink Temperature (measured 1/2 inch from base of SCR.)
1. MAXIMUM ALLOWABLE CASE TEMPERATURE FOR SINUSOIDAL CURRENT WAVEFORM — SINGLE-SIDE COOLED

2. MAXIMUM ALLOWABLE CASE TEMPERATURE FOR RECTANGULAR CURRENT WAVEFORM — SINGLE-SIDE COOLED

3. MAXIMUM ALLOWABLE CASE TEMPERATURE FOR SINUSOIDAL CURRENT WAVEFORM — DOUBLE-SIDE COOLED

4. MAXIMUM ALLOWABLE CASE TEMPERATURE FOR RECTANGULAR CURRENT WAVEFORM — DOUBLE-SIDE COOLED

5. AVERAGE FORWARD POWER DISSIPATION FOR SINUSOIDAL CURRENT WAVEFORM

6. AVERAGE FORWARD POWER DISSIPATION FOR RECTANGULAR CURRENT WAVEFORM

7. EXTENDED FORWARD POWER DISSIPATION FOR SINUSOIDAL CURRENT WAVEFORM

8. EXTENDED FORWARD POWER DISSIPATION FOR RECTANGULAR CURRENT WAVEFORM

9. SUB-CYCLE SURGE AND I^2R RATING FOLLOWING RATED LOAD CONDITIONS
10. Maximum allowable surge current following rated load conditions.

11. Gate triggering characteristics.

12. Forward conduction characteristic, on-state.

13. Transient thermal impedance—junction to sink.