Silicon Controlled Rectifier (SCR)
Gate Controlled Switch

Features:
- Gate Turn–Off Thyristor
- High Speed Power Switching
- TV Horizontal Output
- Inverter and Converter Application
- Supplied in a Japanese TO66 Type Package

Absolute Maximum Ratings:  \( T_A = +25^\circ C \) unless otherwise specified
- Non–Repetitive Peak Off–State Voltage \( (T_J = -40^\circ C \text{ to } +120^\circ C, V_{GK} = 0), V_{DSM} \) .............. 1400V
- Repetitive Peak Off–State Voltage \( (T_J = -40^\circ C \text{ to } +120^\circ C, V_{GK} = 0), V_{DRM} \) ....................... 1250V
- DC On–State Anode Current \( (T_C = +60^\circ C), I_T \) .......................... 5A
- Surge On–State Current \( (T_C = +60^\circ C), I_{TSM} \)
  - \( t = 100\mu s \) .................................................. 80A
  - \( t = 1\text{ms} \) ................................................... 33A
- Peak Forward Gate Current \( (T_C = +60^\circ C, t = 1\text{ms}), I_{GFM} \) ........................................... 4A
- Average Forward Gate Power Dissipation \( (T_C = +60^\circ C), P_{GF(AV)} \) ......................... 1W
- Peak Reverse Gate Power Dissipation \( (T_C = +60^\circ C, t = 5\mu s), P_{GRM} \) .................... 30W
- Average Reverse Gate Power Dissipation \( (T_C = +60^\circ C), P_{GR(AV)} \) ......................... 2W
- Total Power Dissipation \( (T_C = +25^\circ C), P_T \) ........................................... 47.5W
- Operating Junction Temperature Range, \( T_J \) .................................................. -40\(^\circ\) to +120\(^\circ\)C
- Storage Temperature Range, \( T_{stg} \) .................................................. -50\(^\circ\) to +120\(^\circ\)C
- Thermal Resistance, Junction–to–Case, \( R_{thJC} \)
  - Typical .......................................................... 1.3\(^\circ\)C/W
  - Maximum ...................................................... 2.0\(^\circ\)C/W

Electrical Characteristics:  \( T_A = +25^\circ C \) unless otherwise specified

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Conditions</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controllable Anode Current</td>
<td>( I_{TC} )</td>
<td>( V_D = 100V, V_{GR} = 9V, R_g = 0 )</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td>On–State Voltage</td>
<td>( V_T )</td>
<td>( I_T = 5A, I_{GF} = 300mA )</td>
<td>-</td>
<td>-</td>
<td>5.3</td>
<td>V</td>
</tr>
<tr>
<td>Gate Trigger Voltage</td>
<td>( V_{GT} )</td>
<td>( V_D = 10V )</td>
<td>-</td>
<td>-</td>
<td>1.5</td>
<td>V</td>
</tr>
<tr>
<td>Gate Trigger Current</td>
<td>( I_{GT} )</td>
<td>( V_D = 10V )</td>
<td>-</td>
<td>-</td>
<td>120</td>
<td>mA</td>
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<tr>
<td>Parameter</td>
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<tr>
<td>Latching Current</td>
<td>$I_L$</td>
<td>$V_D = 10V$</td>
<td>-</td>
<td>0.6</td>
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<td>A</td>
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<tr>
<td>Holding Current</td>
<td>$I_H$</td>
<td></td>
<td>-</td>
<td>300</td>
<td>-</td>
<td>mA</td>
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<tr>
<td>Turn–Off Current Gain</td>
<td>$G_{off}$</td>
<td>$V_D = 100V, I_T = 25A, t_{off} = 10\mu s$</td>
<td>14.7</td>
<td>20.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Off–State Anode Current</td>
<td>$I_{DRM}$</td>
<td>$V_D = 1000V, V_{GK} = 0$</td>
<td>-</td>
<td>-</td>
<td>0.5</td>
<td>mA</td>
</tr>
<tr>
<td>Turn–On Time</td>
<td>$t_d$</td>
<td>$V_D = 100V, I_T = 5A, I_{GF} = 250mA$</td>
<td>-</td>
<td>0.2</td>
<td>-</td>
<td>\mu s</td>
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<tr>
<td></td>
<td>$t_r$</td>
<td></td>
<td>-</td>
<td>1.3</td>
<td>-</td>
<td>\mu s</td>
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<tr>
<td>Turn–Off Time</td>
<td>$t_{stg}$</td>
<td>$V_D = 100V, I_T = 5A, I_{GR} = 9V$</td>
<td>-</td>
<td>0.22</td>
<td>-</td>
<td>\mu s</td>
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<tr>
<td></td>
<td>$t_f$</td>
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<td>-</td>
<td>0.09</td>
<td>-</td>
<td>\mu s</td>
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<tr>
<td>Critical rate of Rise of Off–State Voltage</td>
<td>$dv/dt$</td>
<td>$V_{DM} = 1000V, V_{GK} = 0$</td>
<td>1000</td>
<td>-</td>
<td>-</td>
<td>V/\mu s</td>
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<tr>
<td>Gate Breakdown Voltage</td>
<td>$V_{(BR)GR}$</td>
<td>$I_{GR} = 10mA$</td>
<td>9</td>
<td>12</td>
<td>-</td>
<td>V</td>
</tr>
</tbody>
</table>