

### THERMAL CHARACTERISTICS

| Characteristic                                                                 | Symbol                                 | Value     | Unit |
|--------------------------------------------------------------------------------|----------------------------------------|-----------|------|
| Thermal Resistance - Junction to Case<br>- Junction to Ambient                 | R <sub>thJC</sub><br>R <sub>thJA</sub> | 75<br>150 | °C/W |
| Maximum Lead Temperature for Soldering Purposes 1/16" from Case for 10 Seconds | T <sub>L</sub>                         | 260       | °C   |

### ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C unless otherwise noted)

| Characteristics | Symbol | Min | Typ | Max | Unit |
|-----------------|--------|-----|-----|-----|------|
|-----------------|--------|-----|-----|-----|------|

### OFF CHARACTERISTICS

|                                                                                                                                                |                                               |                                      |      |      |           |    |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|------|------|-----------|----|
| Peak Reptitive Forward or Reverse Blocking Current<br>(V <sub>D</sub> =Rated V <sub>DRM</sub> and V <sub>RRM</sub> ; R <sub>GK</sub> =1K Ohms) | T <sub>J</sub> =25°C<br>T <sub>J</sub> =110°C | I <sub>DRM</sub><br>I <sub>RRM</sub> | ---- | ---- | 10<br>100 | uA |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|------|------|-----------|----|

### ON CHARACTERISTICS

|                                                                                         |         |     |        |      |      |     |       |
|-----------------------------------------------------------------------------------------|---------|-----|--------|------|------|-----|-------|
| Peak Forward On-State Voltage<br>(ITM= ± 1.6A Peak, Pulse Width≤ 1.0ms, Duty Cycle≤ 1%) |         | VTM |        | ---- | ---- | 1.7 | Volts |
| Gate Trigger Current(VD= 7.0 Vdc,RL=100 Ohms) (1)                                       |         | IGT | S08U25 | ---- | ---- | 25  | uA    |
|                                                                                         |         |     | S08U50 | ---- | ---- | 50  |       |
|                                                                                         |         |     | S08M02 | ---- | ---- | 200 |       |
| Holding Current(VD= 7.0 Vdc, Intitiating Current = 20mA)                                | Tj=25℃  | IH  |        | ---- | ---- | 5   | mA    |
|                                                                                         | Tj=-40℃ |     |        | ---- | ---- | 10  |       |
| Gate Trigger Voltage(VD= 7.0 Vdc,RL=100 Ohms) (1)                                       | Tj=25℃  | VGT |        | ---- | ---- | 0.8 | Volts |
|                                                                                         | Tj=-40℃ |     |        | ---- | ---- | 1.2 |       |
| Latch Current(VD= 7.0 Vdc, RL 100 Ohms)                                                 | Tj=25℃  | IL  |        | ---- | ---- | 10  | mA    |
|                                                                                         | Tj=-40℃ |     |        | ---- | ---- | 15  |       |

### DYNAMIC CHARACTERISTICS

|                                                                                                                                                                |       |    |      |      |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|------|------|------|
| Critical Rate of Rise of Off-State Voltage<br>(V <sub>D</sub> =Rated V <sub>DRM</sub> , Exponential Waveform, P <sub>GK</sub> =1K Ohms, T <sub>J</sub> =110°C) | dv/dt | 20 | ---- | ---- | V/us |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|------|------|------|

(1) R<sub>GK</sub> current is not included in measurement

| Symbol    | Parameter                                 |
|-----------|-------------------------------------------|
| $V_{DRM}$ | Peak Repetitive Off State Forward Voltage |
| $I_{DRM}$ | Peak Forward Blocking Current             |
| $V_{RRM}$ | Peak Repetitive Off State Reverse Voltage |
| $I_{RRM}$ | Peak Reverse Blocking Current             |
| $V_{TM}$  | Peak on State Voltage                     |
| $I_H$     | Holding Current                           |

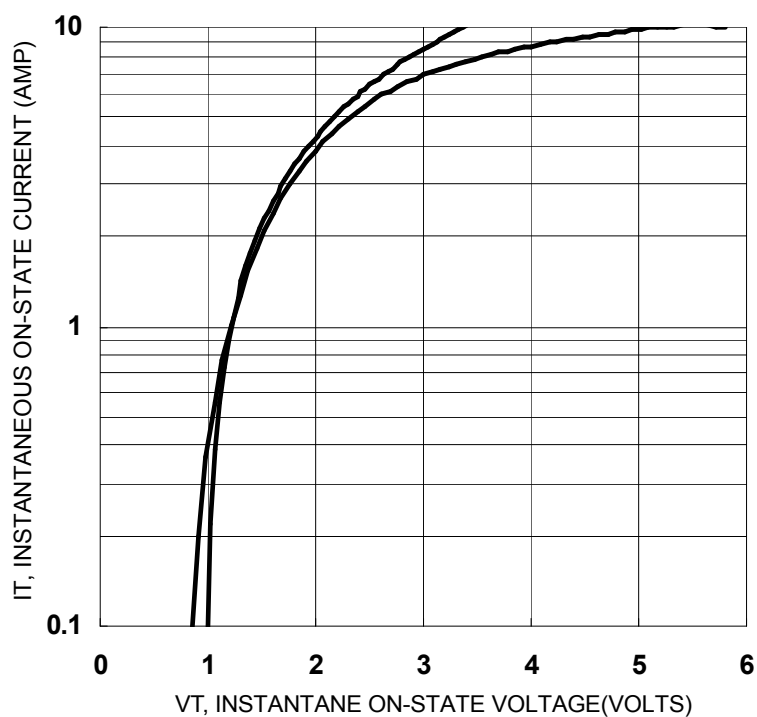
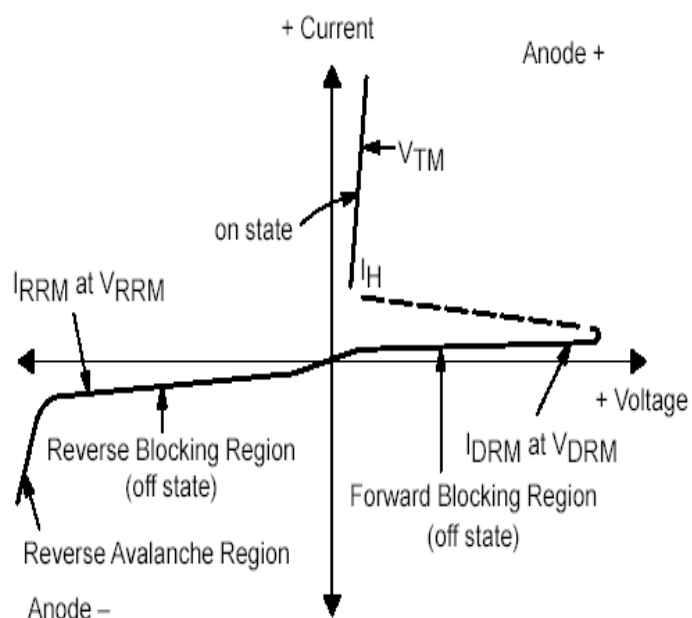


Figure 1. On-State Characteristics

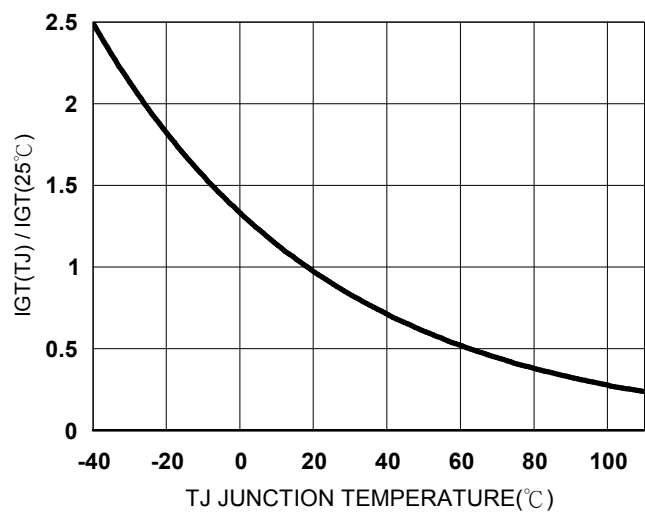


Figure 2. IGT(TJ) / IGT(25°C) versus TJ

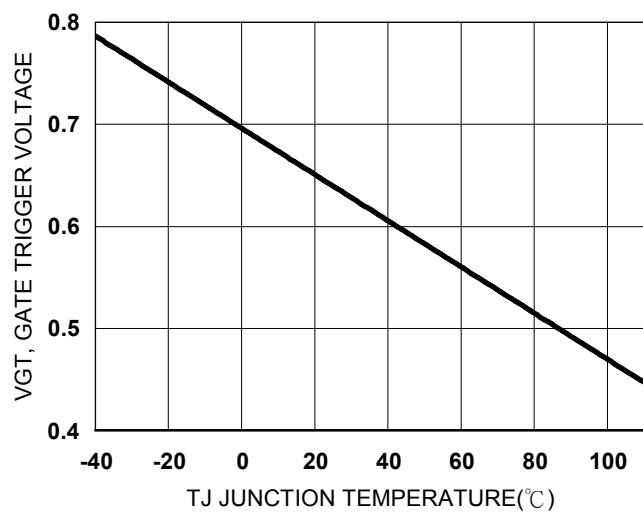


Figure 3. Typical IGT versus TJ

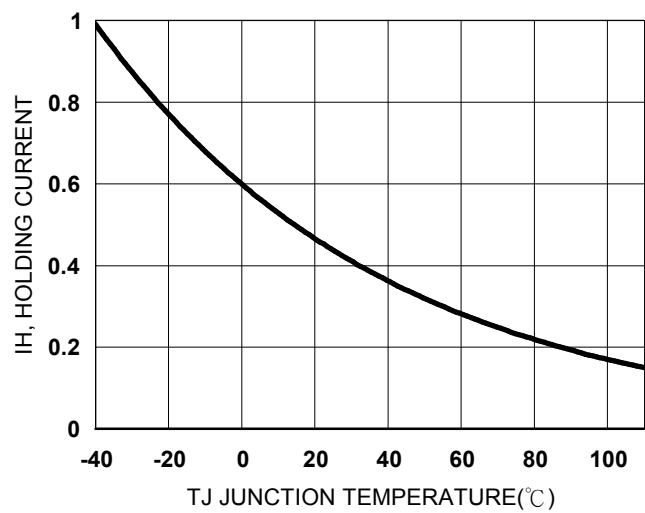


Figure 4. Typical IGT versus TJ

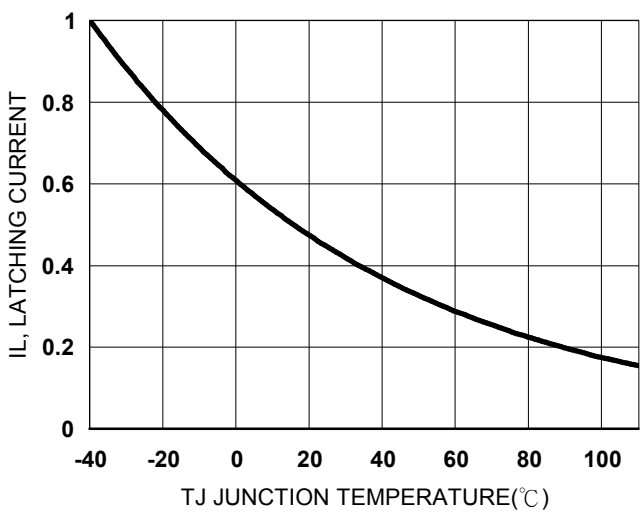


Figure 5. Typical IGT versus TJ

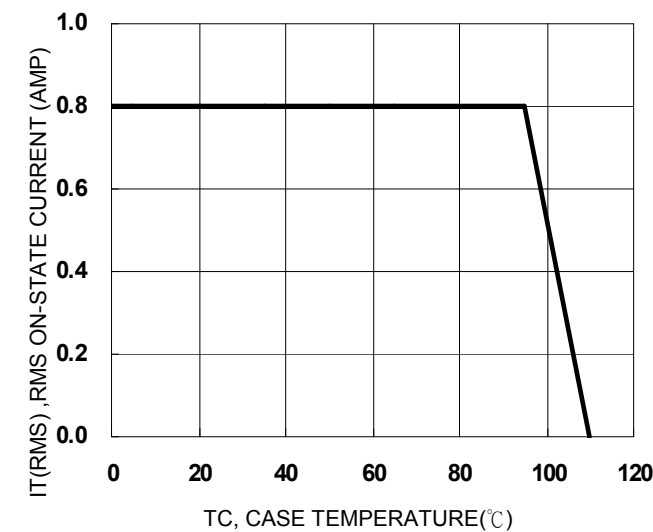


Figure 6. On-State Current Derating Curve

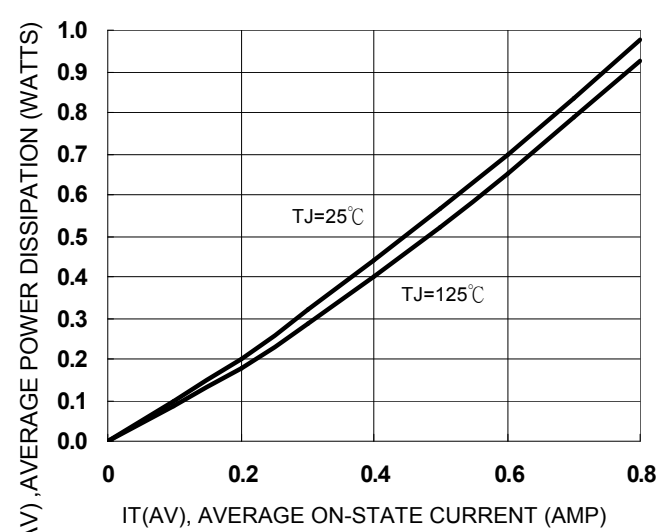


Figure 7. Power Dissipation versus IT

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