

- Part No.: BT137
- Package: TO-220

**■ MAIN FEATURES (Ta=25°C)**

Characteristic	Symbol	Value	Unit
Peak Repetitive Forward and Reverse Voltages	V <sub>DRM</sub> and V <sub>R<sub>RRM</sub></sub>	600	V
RMS on-state current	I <sub>T(RMS)</sub>	8	A
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-40~150	°C

**■ ELECTRICAL CHARACTERISTIC (Ta=25°C)**

Characteristic	Symbol				Test Conditions
Peak Repetitive Forward and Reverse Voltages	V <sub>DRM</sub> and V <sub>R<sub>RRM</sub></sub>				I <sub>D</sub> =1mA
Holding Current	I <sub>H</sub>				V <sub>D</sub> =12V, I <sub>GT</sub> =0.1A
On-state Voltage	V <sub>TM</sub>				I <sub>T</sub> =10A
Gate Trigger Current	I <sub>GT</sub>				V <sub>D</sub> =12V, I <sub>T</sub> =0.1A

TYPICAL CHARACTERISTICS

Figure 1. Maximum on-state Dissipation.  $P_{tot}$  vs RMS On-state Current,  $I_T(RMS)$ , Where  $\alpha$  = conduction Angle.

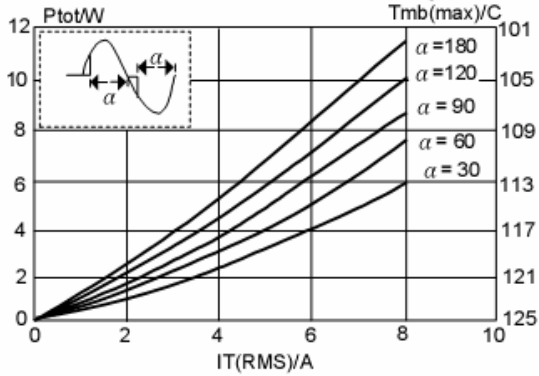


Figure 2. Maximum Permissible Non-repetitive Peak On-state Current  $I_{TSM}$ , vs Pulse Width  $t_p$ , for Sinusoidal Currents,  $t_p \leq 20ms$ .

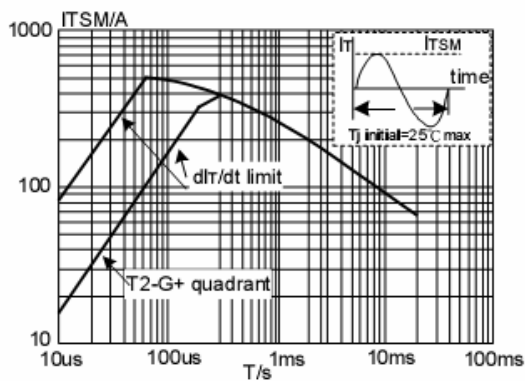


Figure 3. Maximum Permissible Non-Repetitive peak on-state Current  $I_{TSM}$ , vs Number of Cycles, for Sinusoidal Current,  $f = 50HZ$ .

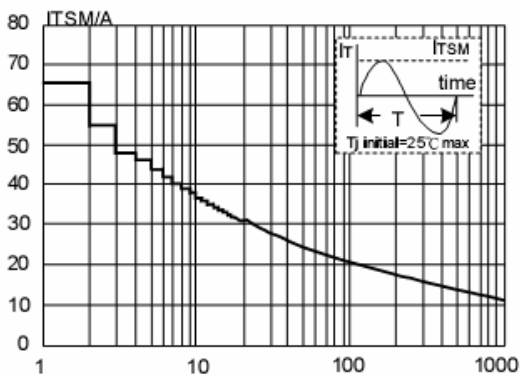


Figure 4. Maximum Permissible RMS Current  $I_T(RMS)$  vs mounting base Temperature  $T_{mb}$ .

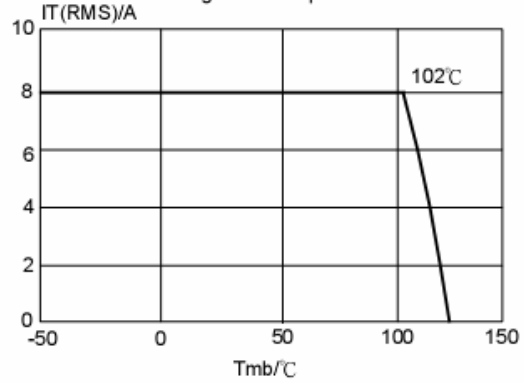


Figure 5. Maximum Permissible Repetitive RMS on-state Current  $I_T(RMS)$ , vs Surge Duration, for Sinusoidal Currents,  $f = 50HZ, T_{mb} \leq 102^\circ C$ .

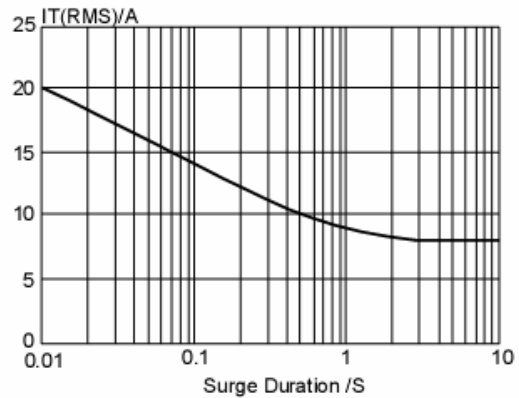


Figure 6. Normalised Gate Trigger Voltage  $V_{GT}(T_j) / V_{GT}(25^\circ C)$  vs Junction Temperature  $T_j$ .

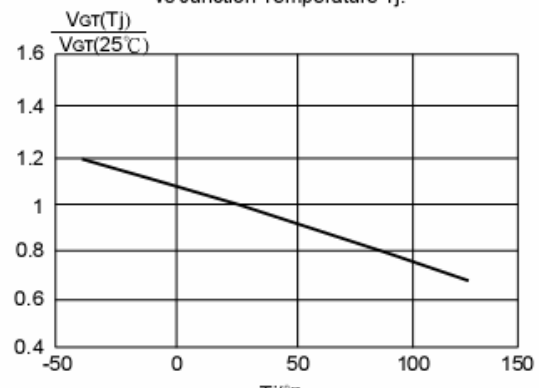


Figure 7. Normalised Gate Trigger Current  $I_{GT}(T_j)/I_{GT}(25^\circ\text{C})$ , vs Junction Temperature  $T_j$ .

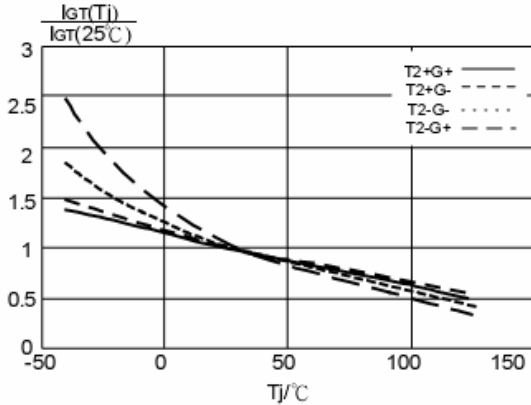


Figure 8. Normalised Latching Current  $I_L(T_j)/I_L(25^\circ\text{C})$ , vs Junction Temperature  $T_j$ .

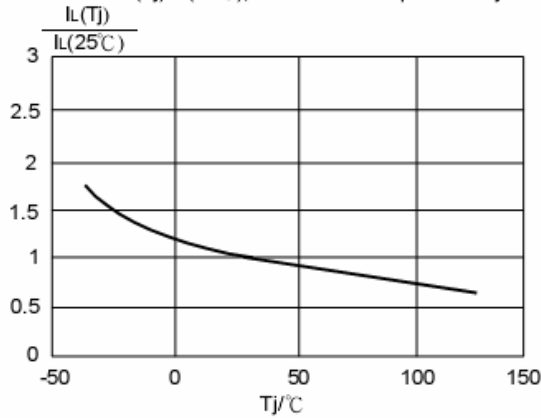


Figure 9. Normalised Holding Current  $I_H(T_j)/I_H(25^\circ\text{C})$ , vs Junction Temperature  $T_j$ .

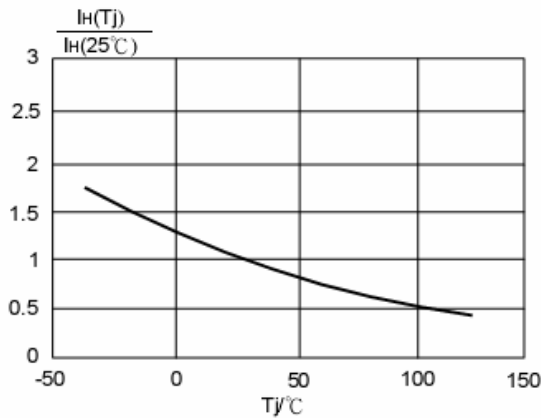


Figure 10. Typical and Maximum On-state Characteristic.

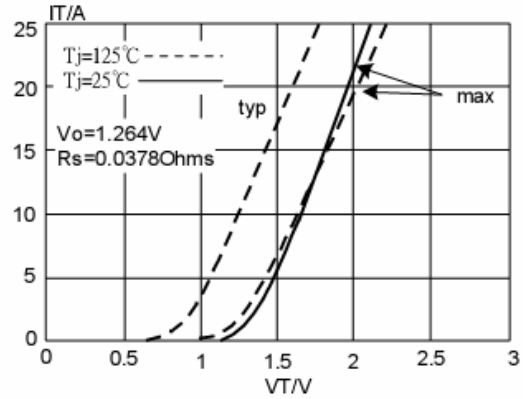


Figure 11. Transient Thermal Impedance  $Z_{th\ j-mb}$ , vs Pulse Width  $t_p$ .

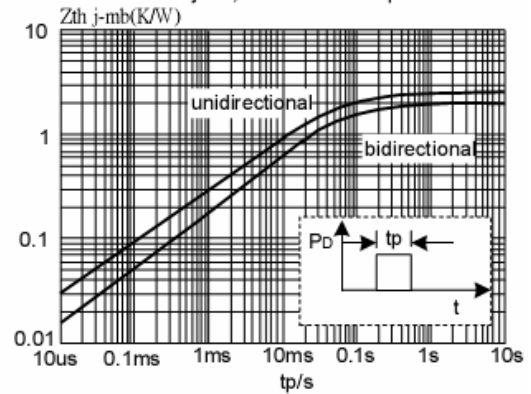


Figure 12. Typical commutation  $dV/dt$  vs junction temperature, parameter commutation  $dI/dt$ . The triac should commute when the  $dV/dt$  is below the value of the appropriate curve for pre-commutation  $dI/dt$ .

