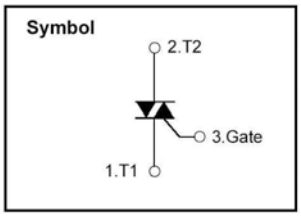
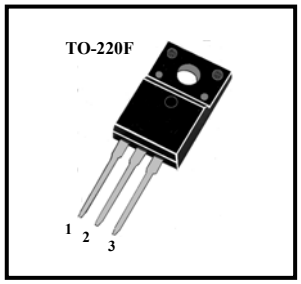
Shantou Huashan Electronic Devices Co.,Ltd.

HBT137F-600

INSULATED TYPE TRIAC (TO-220F PACKAGE)





Features

* **Repetitive Peak Off-State Voltage: 600V**
* **R.M.S On-State Current($I_{T(RMS)}$=8A)**
* **High Commutation dv/dt**
* ***Isolation Voltage（V_{ISO}=1500V AC）**

General Description

This device is fully isolated package suitable for AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.

Absolute Maximum Ratings（T_a=25℃）

T_{stg}——Storage Temperature…… −40~150℃

T_j ——Operating Junction Temperature …… −40~125℃

P_{GM}——Peak Gate Power Dissipation…… 5W

V_{DRM}——Repetitive Peak Off-State Voltage…… 600V

I_T（RMS）——R.M.S On-State Current（Tc=76℃）…… 8.0A

V_{GM}——Peak Gate Voltage…… 10V

I_{GM}——Peak Gate Current…… 2.0A

I_{TSM}——Surge On-State Current (One Cycle, 50/60Hz,Peak,Non-Repetitive) …… 70/77A

V_{ISO}——Isolation Breakdown Voltage（R.M.S，A.C.1minute）……1500V

Electrical Characteristics（T_a=25℃）

Symbol	Items	Min		Max	Unit	Conditions
I_{DRM}	Repetitive Peak Off-State Current			1.0	mA	$V_D=V_{DRM}$,Single Phase,Half Wave, T_J=125℃
V_{TM}	Peak On-State Voltage			1.6	V	I_T=10A, Inst. Measurement
$I+_{GT1}$	Gate Trigger Current（Ⅰ）			25	mA	V_D=6V, R_L=10 ohm
$I-_{GT1}$	Gate Trigger Current（Ⅱ）			25	mA	V_D=6V, R_L=10 ohm
$I-_{GT3}$	Gate Trigger Current（Ⅲ）			25	mA	V_D=6V, R_L=10 ohm
$V+_{GT1}$	Gate Trigger Voltage（Ⅰ）			1.5	V	V_D=6V, R_L=10 ohm
$V-_{GT1}$	Gate Trigger Voltage（Ⅱ）			1.5	V	V_D=6V, R_L=10 ohm
$V-_{GT3}$	Gate Trigger Voltage（Ⅲ）			1.5	V	V_D=6V, R_L=10 ohm
V_{GD}	Non-Trigger Gate Voltage	0.2			V	T_J=125℃,V_D=1/2V_{DRM}
(dv/dt)c	Critical Rate of Rise of Off-State Voltage at Commutation	5.0			V/μS	T_J=125℃,V_D=2/3V_{DRM} (di/dt)c=-3A/ms
I_H	Holding Current		10		mA	
Rth(j-c)	Thermal Resistance			3.8	℃/W	Junction to case

Performance Curves

Fig 1. Gate Characteristics

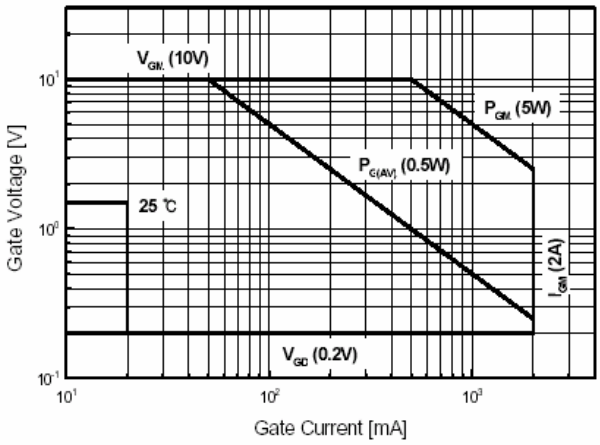


Fig 2. On-State Voltage

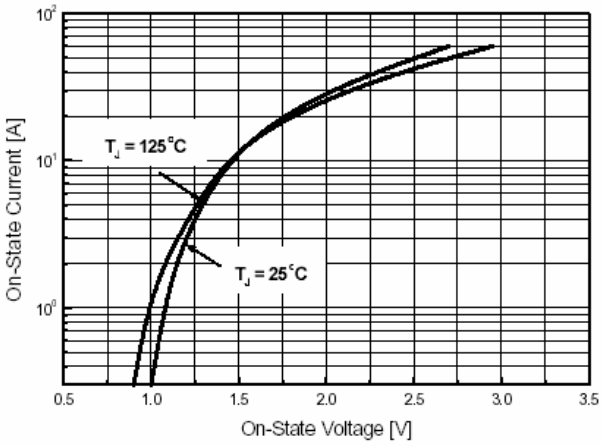


Fig 3. On State Current vs. Maximum Power Dissipation

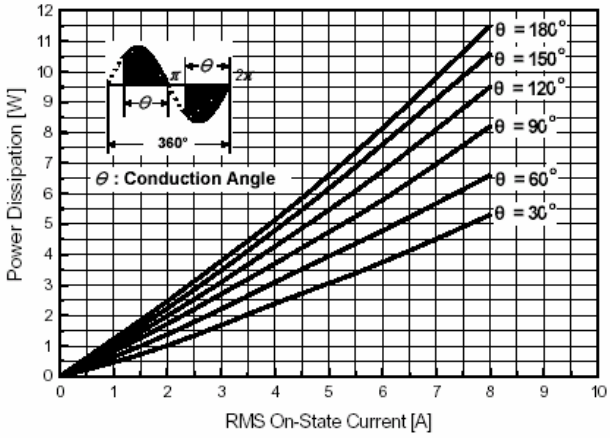


Fig 4. On State Current vs. Allowable Case Temperature

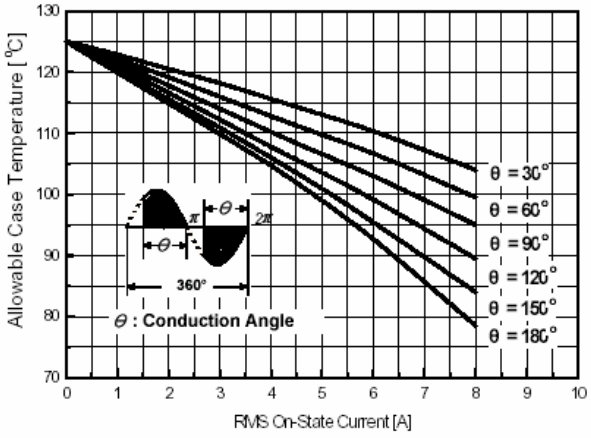


Fig 5. Surge On-State Current Rating (Non-Repetitive)

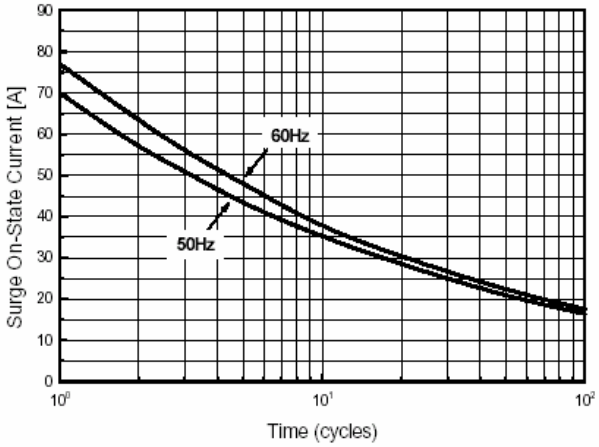


Fig 6. Gate Trigger Voltage vs. Junction Temperature

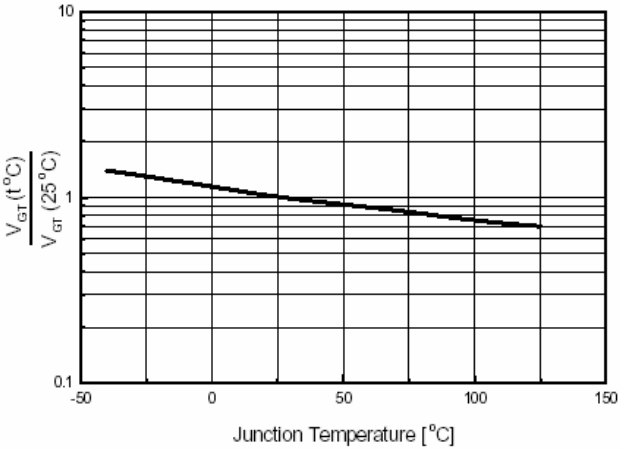


Fig 7. Gate Trigger Current vs. Junction Temperature

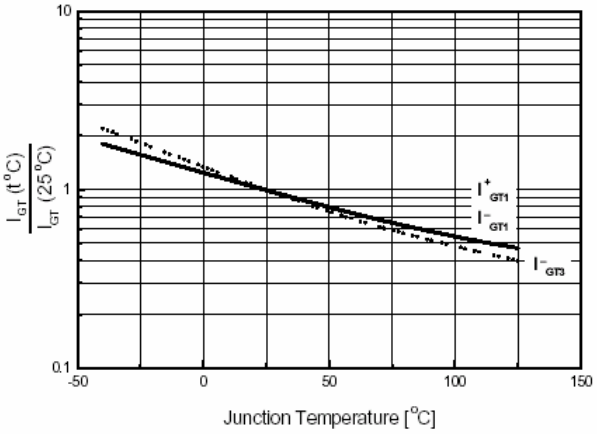


Fig 8. Transient Thermal Impedance

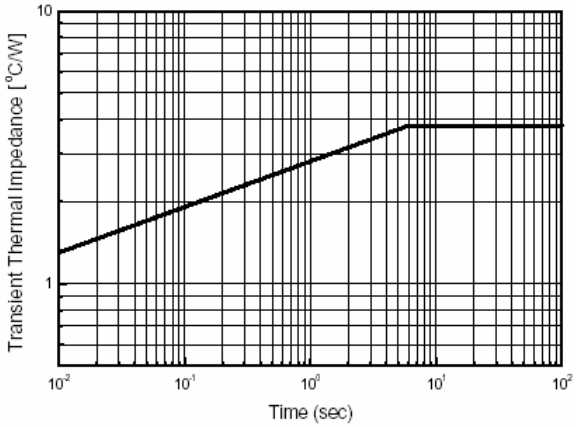


Fig 9. Gate Trigger Characteristics Test Circuit