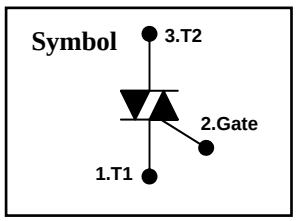
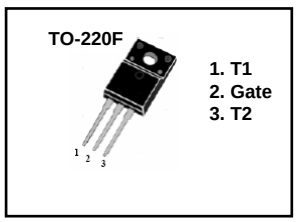
SemiHow
SEMICONDUCTOR TOTAL SOLUTION®

HTS137-600
INSULATION TYPE TRIAC (TO-220F)

V_{DRM} = 600 V
$I_{T(RMS)}$ = 8.0A





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}=1500VAC)

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 (Ta=25℃)

Symbol	Parameter	Value	Units
V_{DRM}	Repetitive Peak Off-State Voltage	600	V
$I_{T(RMS)}$	R.M.S On-State Current (Tc = 76℃)	8.0	A
I_{TSM}	Surge On-State Current (One Cycle, 50/60Hz, Peak, Non Repetitive)	70/77	A
V_{GM}	Peak Gate Voltage	10	V
I_{GM}	Peak Gate Current	2.0	A
P_{GM}	Peak Gate Power Dissipation	5.0	W
V_{ISO}	Isolation Breakdown Voltage (RMS AC 1min)	1500	V
T_{STG}	Storage Temperature Range	-40 to +125	℃
T_j	Operating Temperature	-40 to +125	℃

Electrical Characteristics (T_a=25℃)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
I_{GT}	Gate Trigger Current	V_D=6V, R_L=10Ω			25	mA
V_{GT}	Gate Trigger Voltage	V_D=6V, R_L=10Ω			1.5	V
V_{GD}	Non Trigger Gate Voltage	T_j=125℃, V_D=1/2V_{DRM}	0.2			V
(dv/dt)c	Critical Rate of Rise of Off-State Voltage at Communication	T_j=125℃, V_D=2/3V_{DRM} (di/dt)c=-3A/ms	5.0			V/uS
I_H	Holding Current			10.0		mA
I_{DRM}	Repetitive Peak Off-State Current	V_D=V_{DRM}, Single Phase, Half Wave, T_j=125℃			0.5	mA
V_{TM}	Peak On-State Voltage	IT=6A, Inst, Measurement			1.6	V

Thermal Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$R_{TH(j-c)}$	Thermal Resistance	Junction to Case			3.8	℃/W

Performance Curves

Fig 1. Gate Characteristics

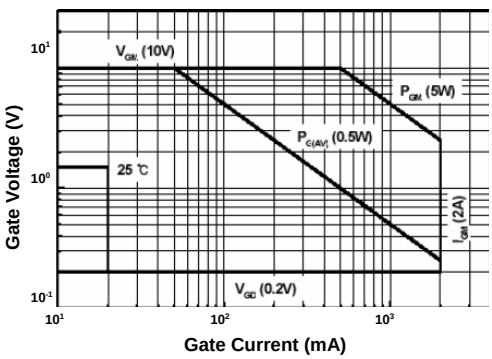


Fig 2.On-State Voltage

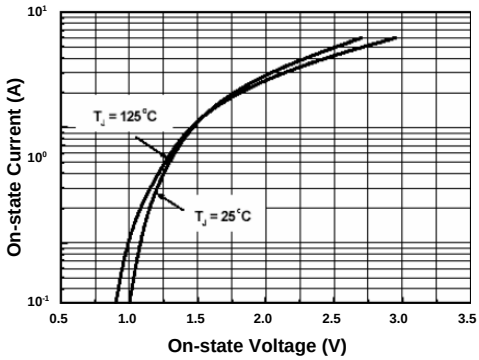


Fig 3. Gate Trigger Voltage vs. Junction Temperature

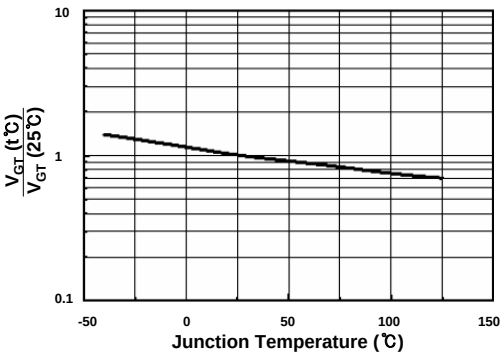


Fig 4. On State Current vs. Maximum Power Dissipation

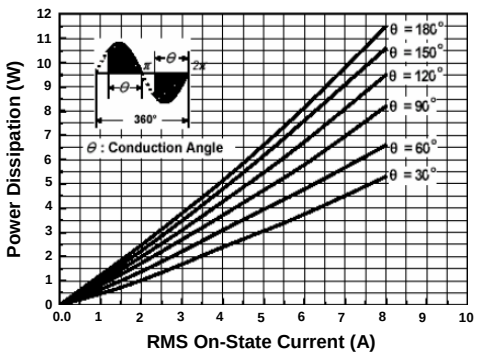


Fig 5. On State Current vs. Allowable Case Temperature

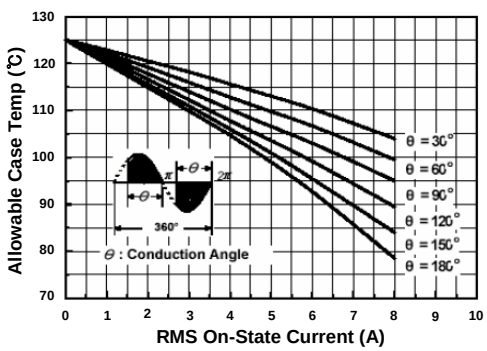


Fig 6. Surge On-State Current Rating (Non-Repetitive)

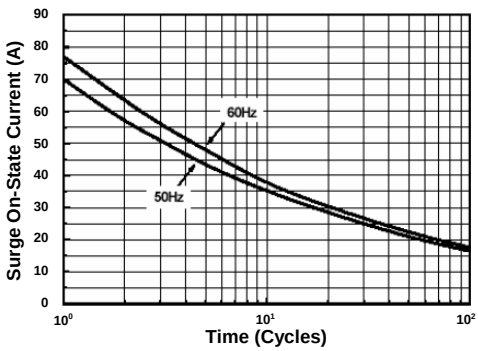


Fig 7. Gate Trigger Current vs. Junction Temperature

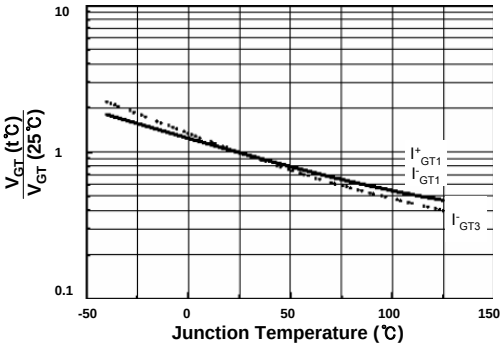


Fig8. Transient Thermal Impedance

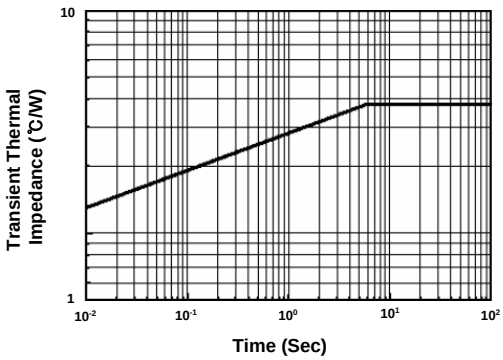
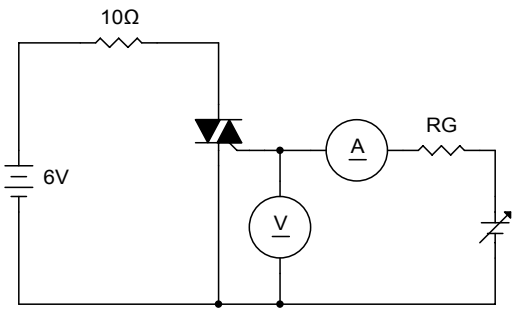
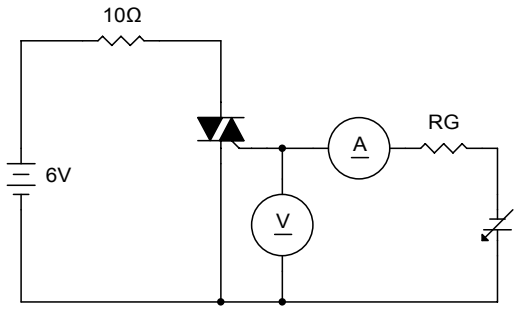


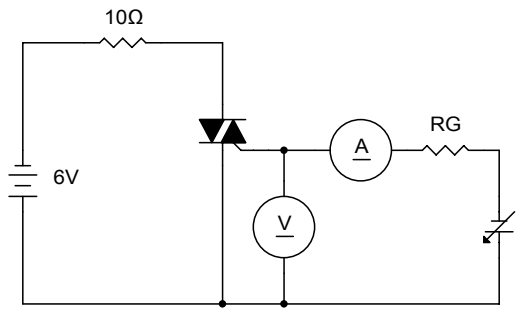
Fig 7. Gate Trigger Characteristics Test Circuit



Test Procedure I



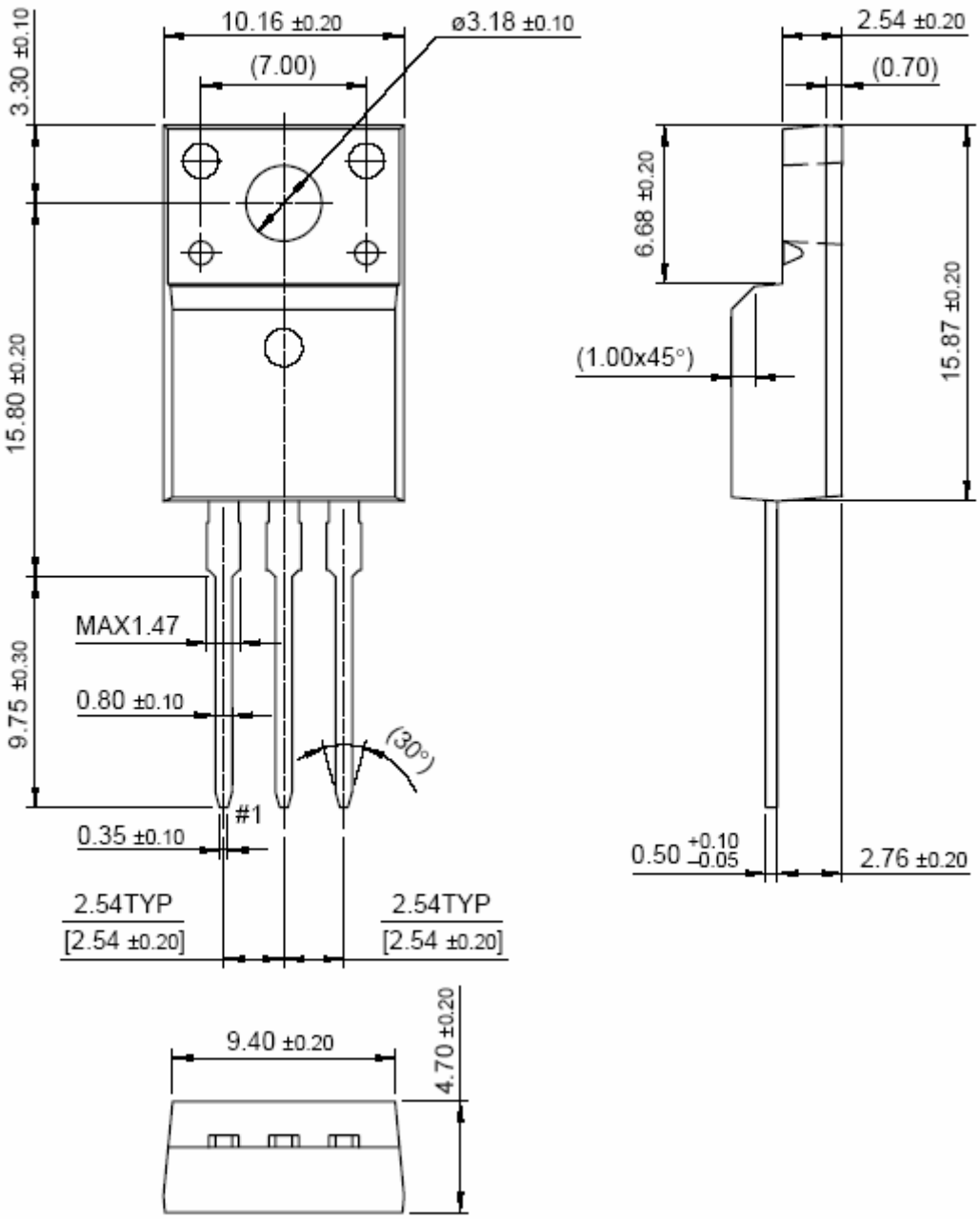
Test Procedure II



Test Procedure III

Package Dimensions

HTS137-600
(TO-220F)



Dimensions in Millimeters