



INSULATED TYPE TRIAC (TO-220F PACKAGE)

Features

- * Repetitive Peak Off-State Voltage: 600V
- * R.M.S On-State Current($I_{T(RMS)}=12A$)
- * High Commutation dv/dt
- * Isolation Voltage ($V_{ISO}=1500V AC$)

General Description

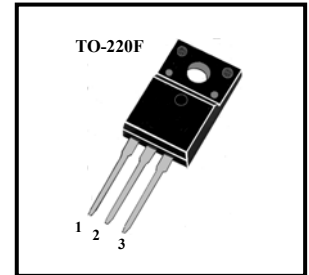
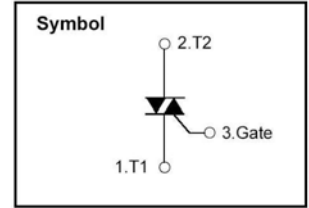
This device is fully isolated package suitable for AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.

Absolute Maximum Ratings ($T_a=25^\circ C$)

T_{stg} —Storage Temperature.....	-40~125°C
T_j —Operating Junction Temperature	-40~125°C
P_{GM} —Peak Gate Power Dissipation.....	5W
V_{DRM} —Repetitive Peak Off-State Voltage.....	600V
$I_T (RMS)$ —R.M.S On-State Current ($T_c=79^\circ C$)	12A
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)	119/130A
V_{ISO} —Isolation Breakdown Voltage (R.M.S, A.C.1minute)	1500V

Electrical Characteristics ($T_a=25^\circ C$)

Symbol	Items	Min	Max	Unit	Conditions
I_{DRM}	Repetitive Peak Off-State Current		2.0	mA	$V_D=V_{DRM}$, Single Phase, Half Wave, $T_j=125^\circ C$
V_{TM}	Peak On-State Voltage		1.4	V	$I_T=20A$, Inst. Measurement
I_{+GT1}	Gate Trigger Current (I)		30	mA	$V_D=6V, R_L=10\ ohm$
I_{-GT1}	Gate Trigger Current (II)		30	mA	$V_D=6V, R_L=10\ ohm$
I_{-GT3}	Gate Trigger Current (III)		30	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	$T_j=125^\circ C, V_D=1/2V_{DRM}$
$(dv/dt)_c$	Critical Rate of Rise of Off-State Voltage at Commutation	10		V/ μS	$T_j=125^\circ C, V_D=2/3V_{DRM} (di/dt)_c=-6A/ms$
I_H	Holding Current		20	mA	
$R_{th(j-c)}$	Thermal Resistance		3.3	$^\circ C/W$	Junction to case





Performance Curves

Fig 1. Gate Characteristics

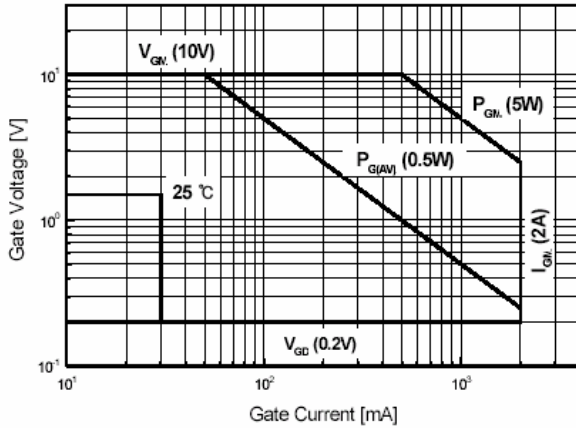


Fig 2. On-State Voltage

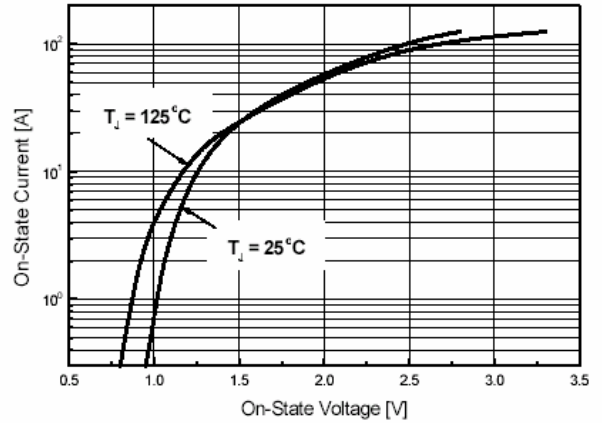


Fig 3. On State Current vs. Maximum Power Dissipation

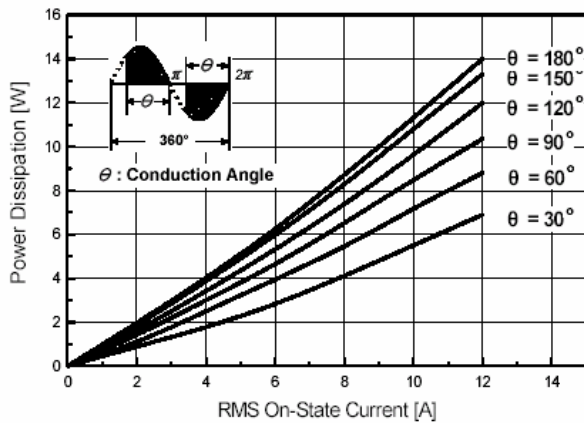


Fig 4. On State Current vs. Allowable Case Temperature

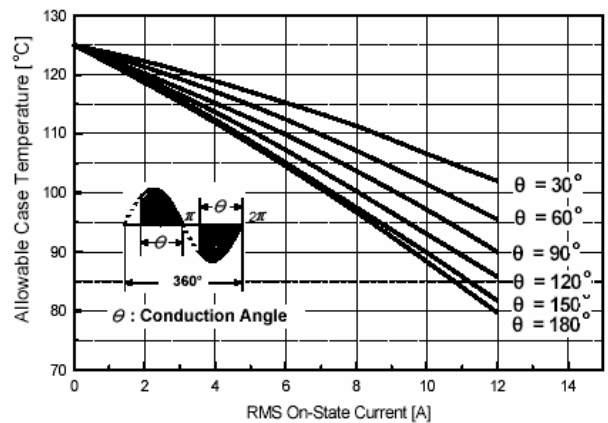


Fig 5. Surge On-State Current Rating (Non-Repetitive)

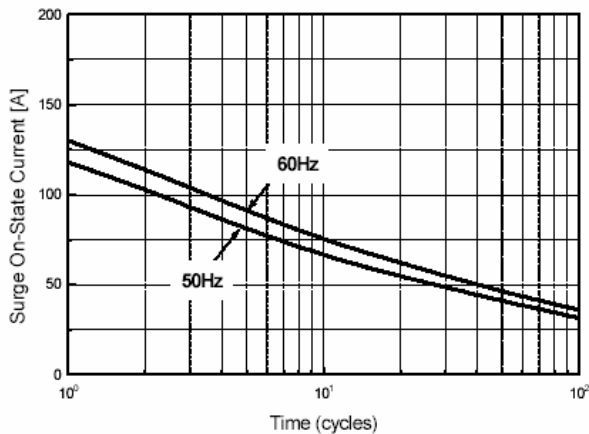


Fig 6. Gate Trigger Voltage vs. Junction Temperature

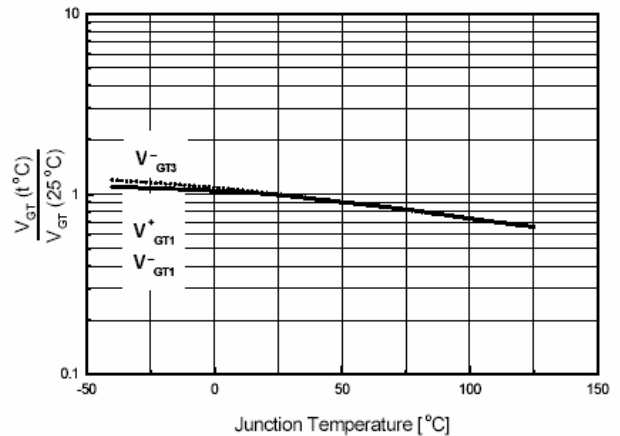




Fig 7. Gate Trigger Current vs. Junction Temperature

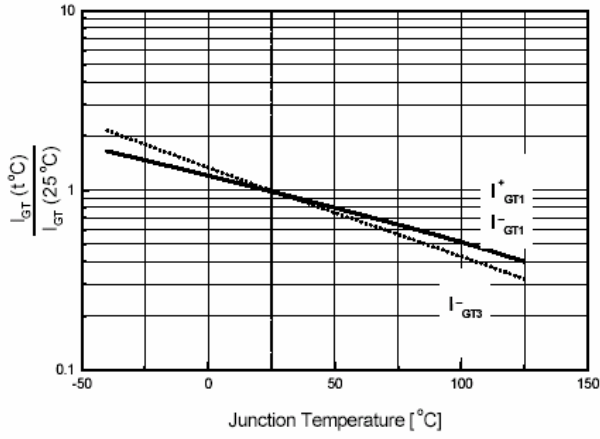


Fig 8. Transient Thermal Impedance

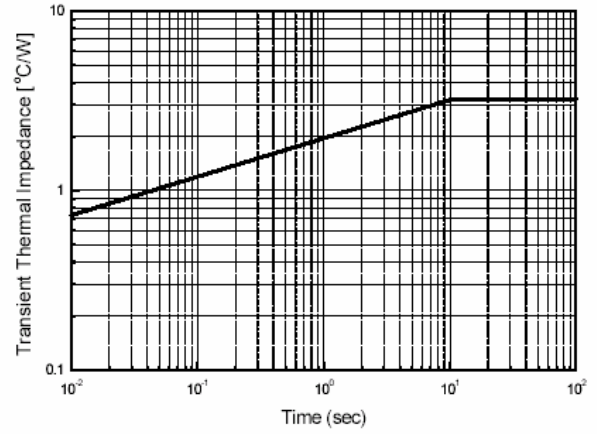
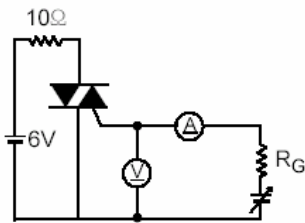
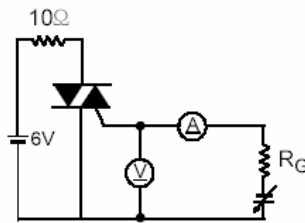


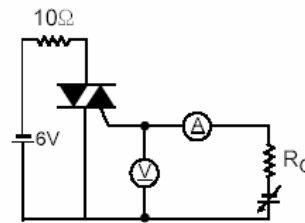
Fig 9. Gate Trigger Characteristics Test Circuit



Test Procedure I



Test Procedure II



Test Procedure III