



**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 ( $V_{ISO}=1500V AC$ )

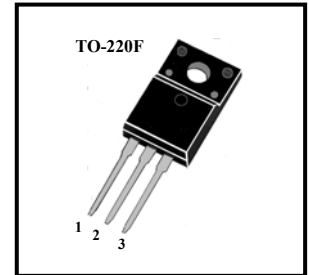
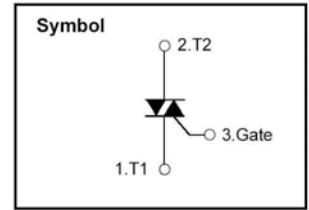
**General Description**

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** ( $T_a=25^\circ C$ )

$T_{stg}$ —Storage Temperature.....	-40~150°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 ( $T_c=76^\circ C$ ) .....	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** ( $T_a=25^\circ C$ )



Symbol	Items	Min	Max	Unit	Conditions
$I_{DRM}$	Repetitive Peak Off-State Current		1.0	mA	$V_D=V_{DRM}$ , Single Phase, Half Wave, $T_j=125^\circ C$
$V_{TM}$	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	$T_j=125^\circ C$ , $V_D=1/2V_{DRM}$
$(dv/dt)_c$	Critical Rate of Rise of Off-State Voltage at Commutation	5.0		V/ $\mu S$	$T_j=125^\circ C$ , $V_D=2/3V_{DRM}$ $(di/dt)_c=-3A/ms$
$I_H$	Holding Current		10	mA	
$R_{th(j-c)}$	Thermal Resistance		3.8	$^\circ C/W$	Junction to case



### Performance Curves

Fig 1. Gate Characteristics

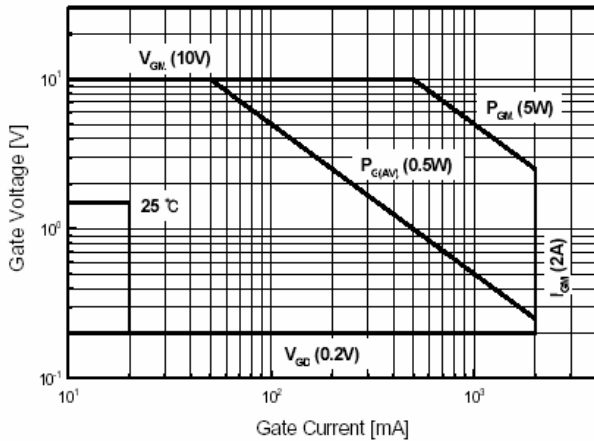


Fig 2. On-State Voltage

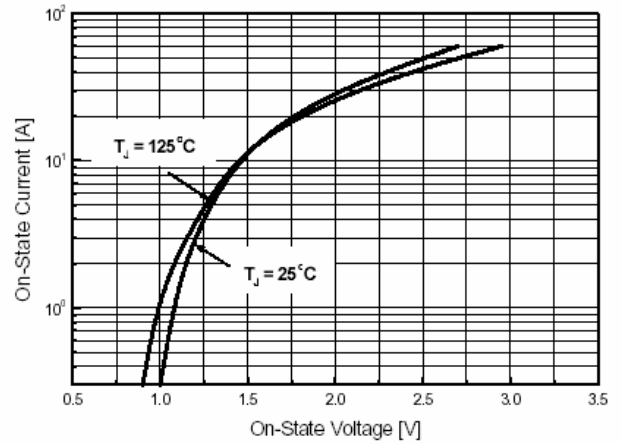


Fig 3. On State Current vs. Maximum Power Dissipation

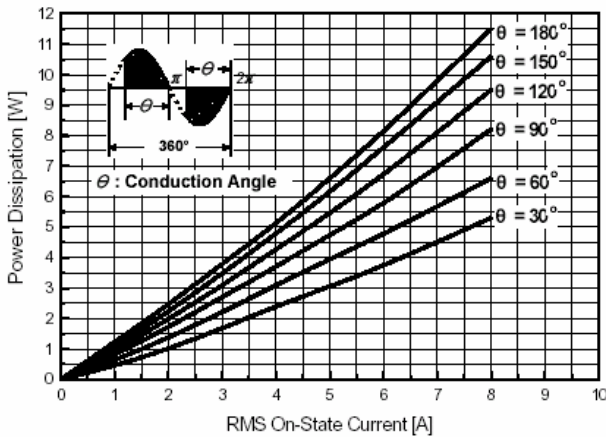


Fig 4. On State Current vs. Allowable Case Temperature

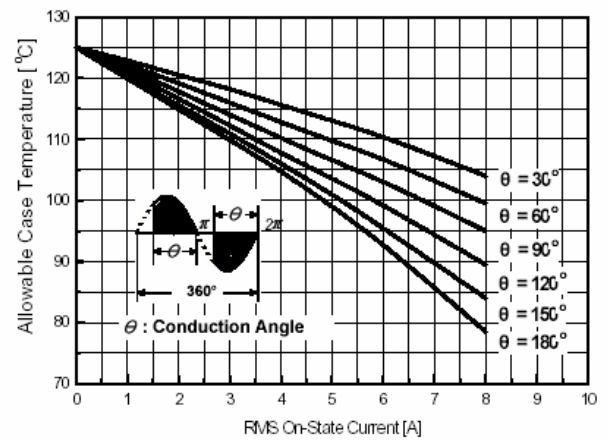


Fig 5. Surge On-State Current Rating ( Non-Repetitive )

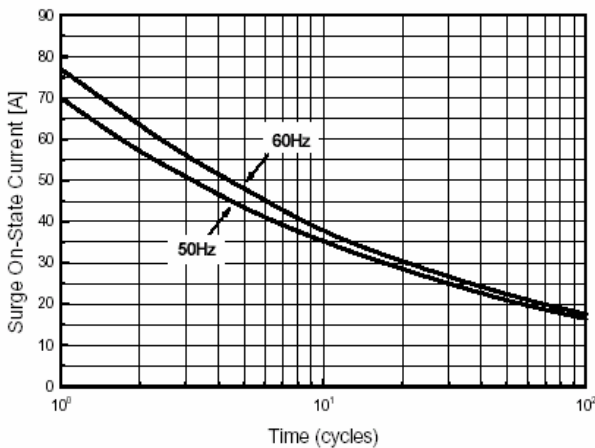


Fig 6. Gate Trigger Voltage vs. Junction Temperature

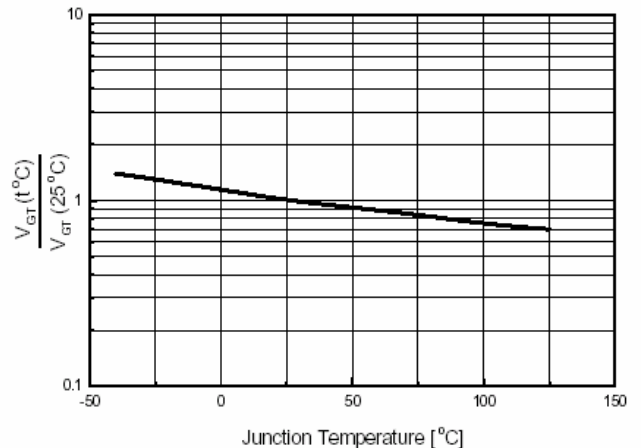




Fig 7. Gate Trigger Current vs. Junction Temperature

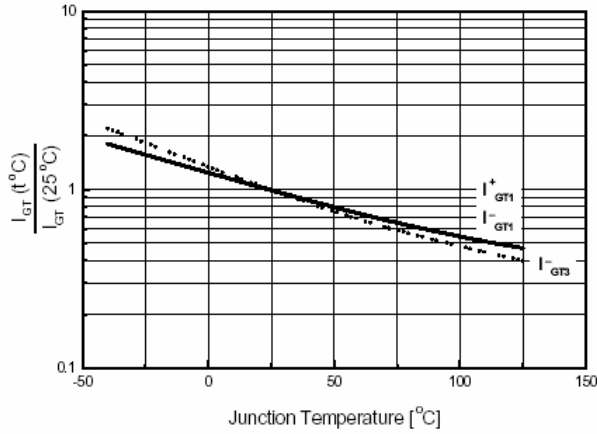


Fig 8. Transient Thermal Impedance

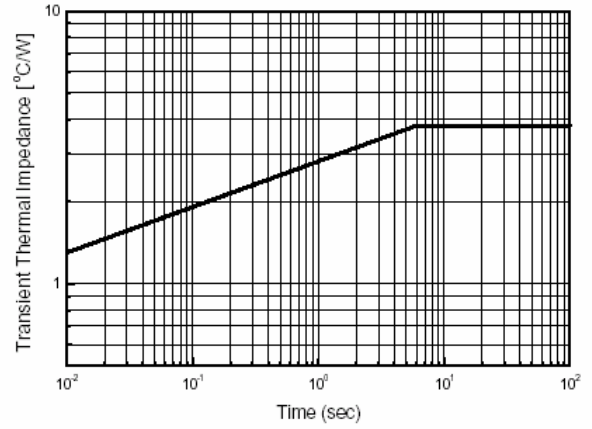
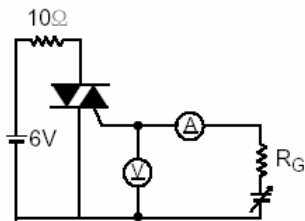
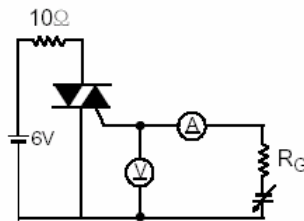


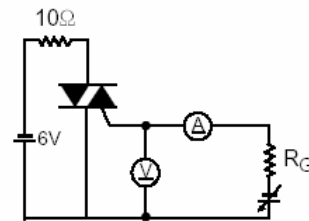
Fig 9. Gate Trigger Characteristics Test Circuit



Test Procedure I



Test Procedure II



Test Procedure III