



**INSULATED TYPE TRIAC (TO-220F PACKAGE)**

**Features**

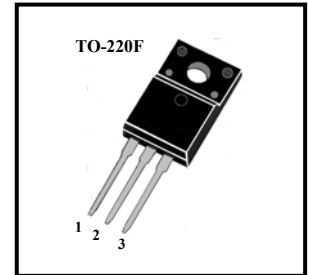
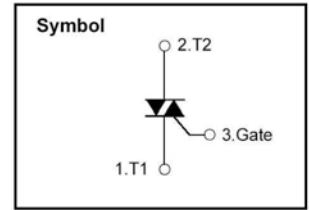
- \* Repetitive Peak Off-State Voltage: 600V
- \* R.M.S On-State Current( $I_{T(RMS)}=12A$ )
- \* High Commutation  $dv/dt$
- \* Isolation Voltage ( $V_{ISO}=1500V AC$ )

**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	-40~150°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 ( $T_c=58^\circ C$ )	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)	100/110A
$V_{ISO}$	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		1.65	V	$I_T=15A$ , 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	10		V/ $\mu S$	$T_j=125^\circ C$ , $V_D=2/3V_{DRM}$ $(di/dt)_c=-4A/ms$
$I_H$	Holding Current		15	mA	
$R_{th(j-c)}$	Thermal Resistance		3.7	$^\circ C/W$	Junction to case



### Performance Curves

Fig 1. Gate Characteristics

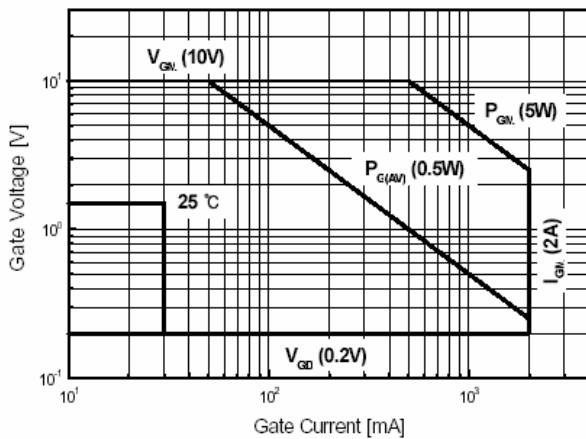


Fig 2. On-State Voltage

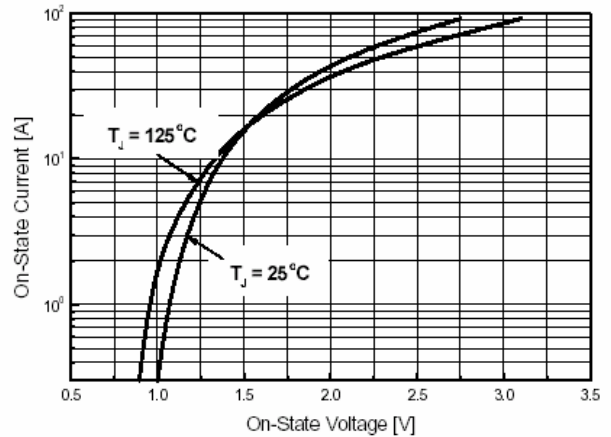


Fig 3. On State Current vs. Maximum Power Dissipation

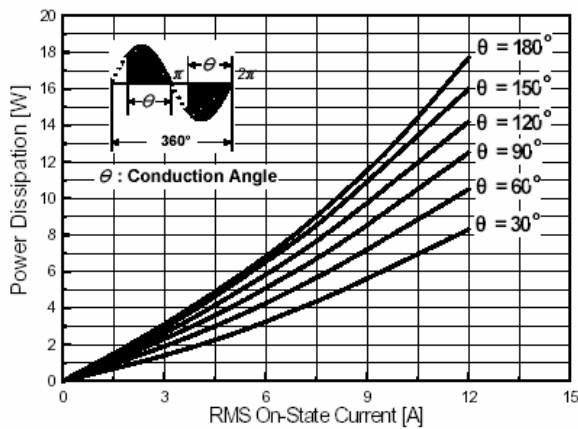


Fig 4. On State Current vs. Allowable Case Temperature

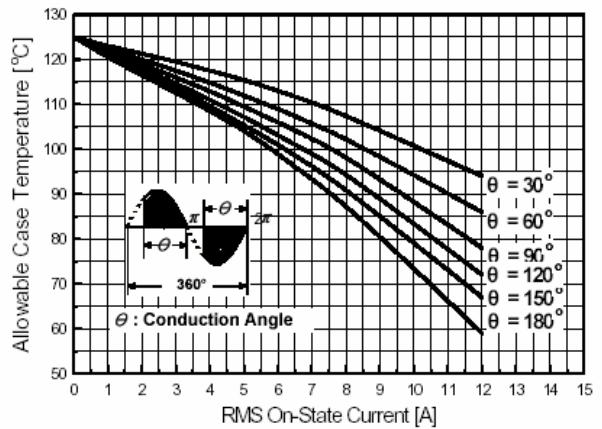


Fig 5. Surge On-State Current Rating ( Non-Repetitive )

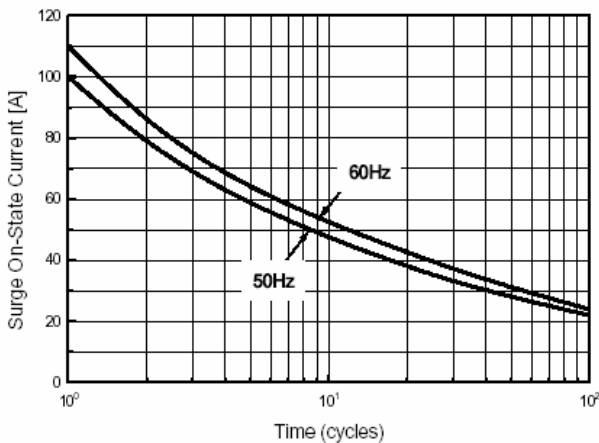


Fig 6. Gate Trigger Voltage vs. Junction Temperature

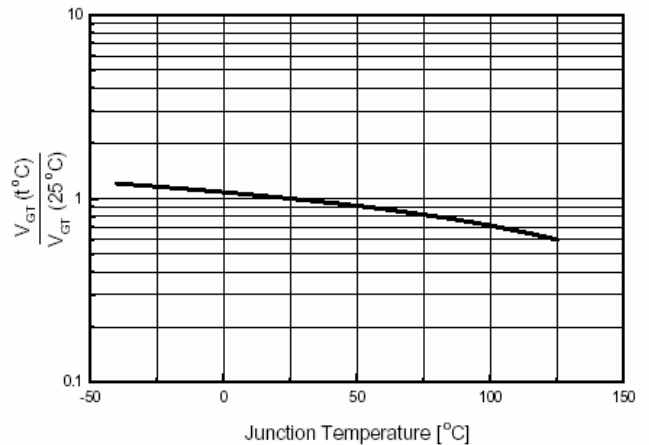




Fig 7. Gate Trigger Current vs. Junction Temperature

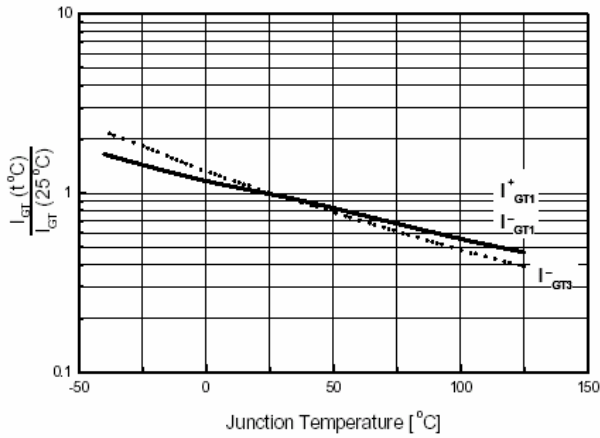


Fig 8. Transient Thermal Impedance

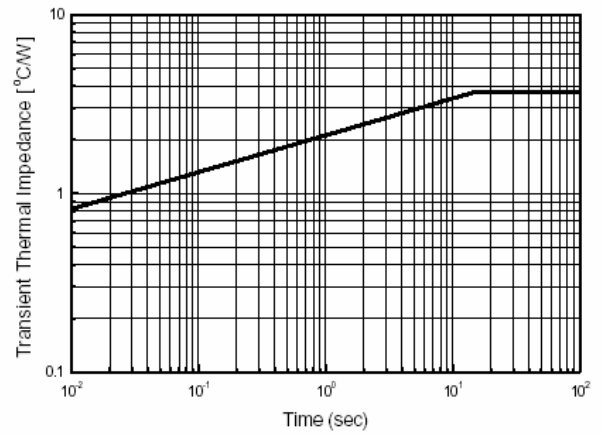
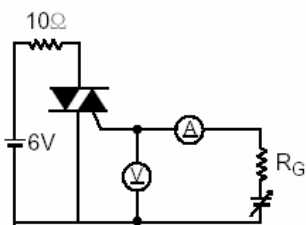
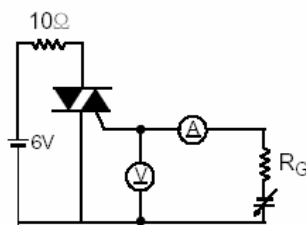


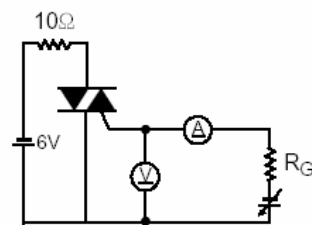
Fig 9. Gate Trigger Characteristics Test Circuit



Test Procedure I



Test Procedure II



Test Procedure III