



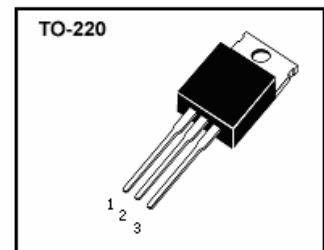
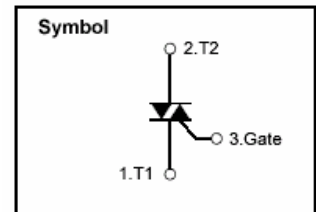
## NON INSULATED TYPE SENSITIVE GATE TRIAC (TO-220 PACKAGE)

### Features

- \* Repetitive Peak Off-State Voltage: 600V
- \* R.M.S On-state Current( $I_{T(RMS)}=4A$ )
- \* High Commutation  $dv/dt$
- \* Sensitive Gate Triggering 4 Mode

### General Description

The devices is sensitive gate triac suitable for direct coupling to TTL,HTL,CMOS and application such as various logic functions, low power AC switching applications, such as fan speed, small light controllers and home appliance equipment.



### Absolute Maximum Ratings ( $T_a=25$ )

$T_{stg}$ —Storage Temperature .....	-40~125
$T_j$ —Operating Junction Temperature .....	-40~125
$P_{GM}$ —Peak Gate Power Dissipation .....	1.5W
$P_{G(AV)}$ —Average Gate Power Dissipation .....	0.1W
$V_{DRM}$ —Repetitive Peak Off-State Voltage .....	600V
$I_T(RMS)$ —R.M.S On-State Current( $T_a=95$ ).....	4.0A
$V_{GM}$ —Peak Gate Voltage .....	7.0V
$I_{GM}$ —Peak Gate Current .....	1.0A
$I_{TSM}$ —Surge On-State Current (One Cycle, 50/60Hz,Peak,Non-Repetitive) .....	30/33A

**Electrical Characteristics** (  $T_a=25$  )

Symbol	Items	Min.	Typ.	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	$I_T=6A$ , Inst. Measurement
$I_{+GT1}$	Gate Trigger Current ( )			5.0	mA	$V_D=6V$ , $R_L=10$ ohm
$I_{-GT1}$	Gate Trigger Current ( )			5.0	mA	$V_D=6V$ , $R_L=10$ ohm
$I_{-GT3}$	Gate Trigger Current ( )			5.0	mA	$V_D=6V$ , $R_L=10$ ohm
$I_{+GT3}$	Gate Trigger Current ( )			10.0	mA	$V_D=6V$ , $R_L=10$ ohm
$V_{+GT1}$	Gate Trigger Voltage ( )			1.4	V	$V_D=6V$ , $R_L=10$ ohm
$V_{-GT1}$	Gate Trigger Voltage ( )			1.4	V	$V_D=6V$ , $R_L=10$ ohm
$V_{-GT3}$	Gate Trigger Voltage ( )			1.4	V	$V_D=6V$ , $R_L=10$ ohm
$V_{+GT3}$	Gate Trigger Voltage ( )			1.8	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) <sub>c</sub>	Critical Rate of Rise of Off-State Voltage at Commutation	5			V/ $\mu$ S	$T_J=125$ , $V_D=2/3V_{DRM}$ (di/dt) <sub>c</sub> = -0.5A/ms
$I_H$	Holding Current			10	mA	
R <sub>th(j-c)</sub>	Thermal Resistance			3	/W	Junction to case



## Performance Curves

Fig 1. Gate Characteristics

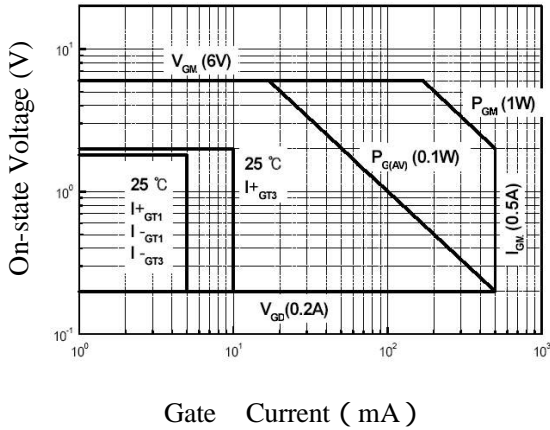


Fig 2. On-State Voltage

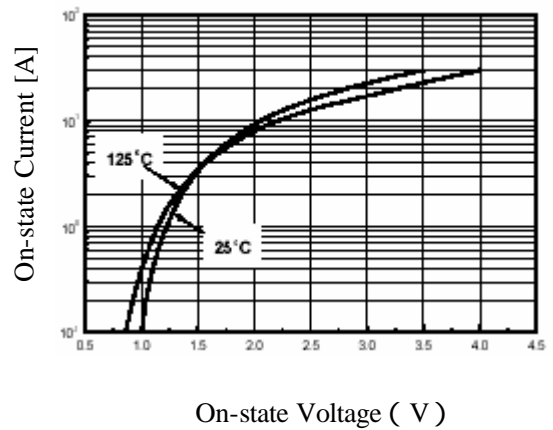


Fig 3. Gate Trigger Voltage vs. Junction Temperature

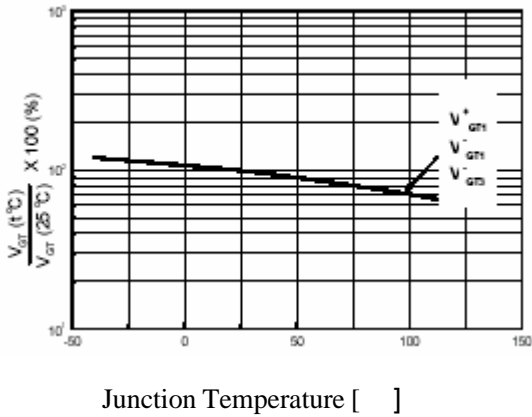


Fig 4. On State Current vs. Maximum Power Dissipation

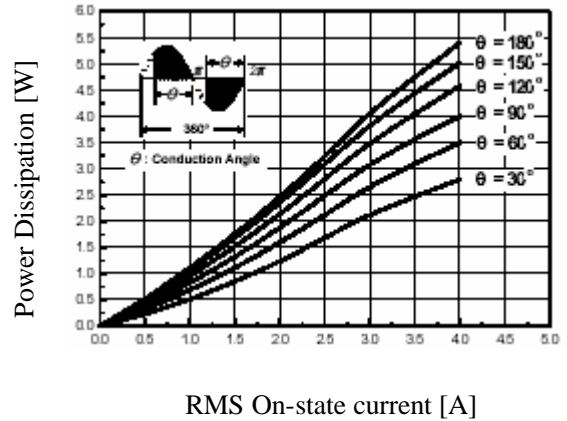


Fig 5. On State Current vs. Allowable Case Temperature

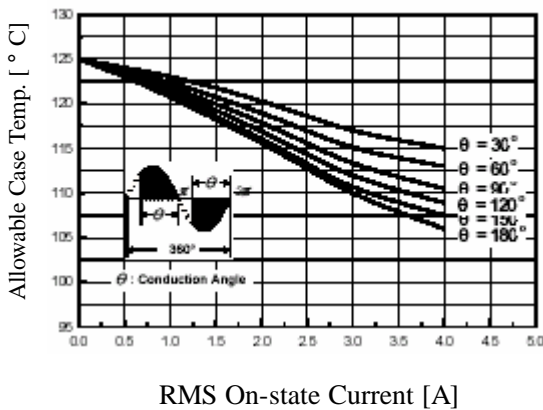
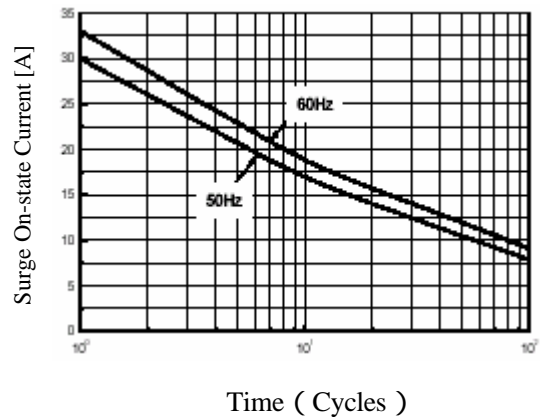
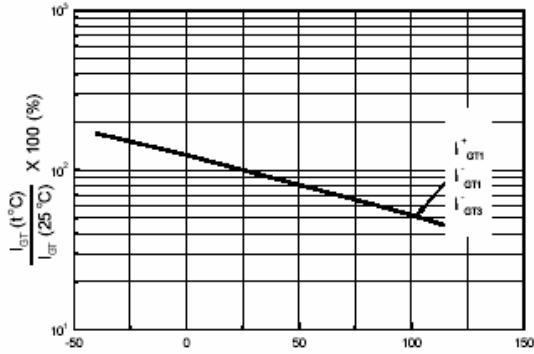


Fig 6. Surge On-State Current Rating (Non-Repetitive)



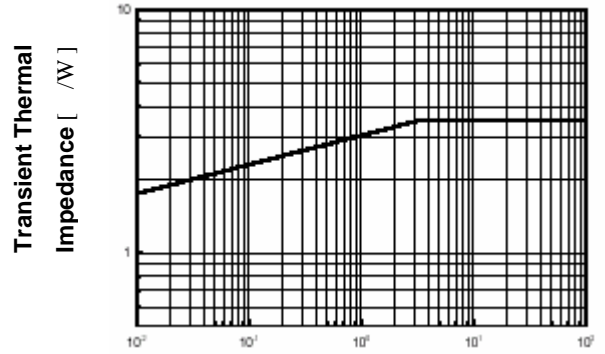


**Fig 7. Gate Trigger Current vs. Junction Temperature**



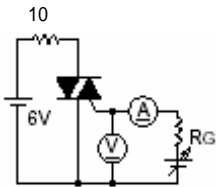
Junction Temperature [ °C ]

**Fig 8. Transient Thermal Impedance**

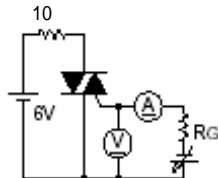


Time (sec)

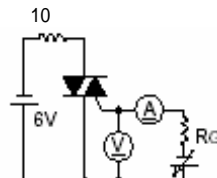
**Fig 9. Gate Trigger Characteristics Test Circuit**



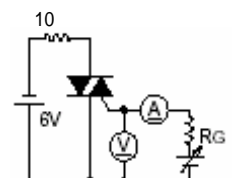
Test Procedure



Test Procedure



Test Procedure



Test Procedure