

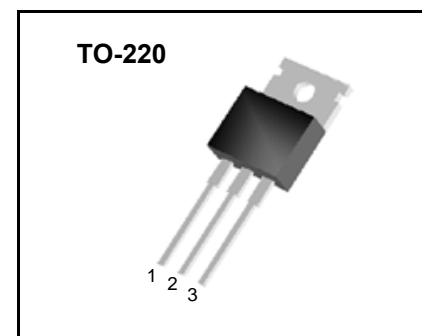
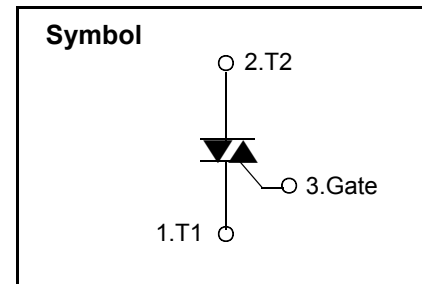
## Sensitive Gate Triac

### Features

- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current (  $I_{T(RMS)} = 4\text{ A}$  )

### General Description

This device is 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 ( $T_j = 25^\circ\text{C}$ unless otherwise specified )

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage	Since wave, 50 to 60Hz	600	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_j = 125^\circ\text{C}$ , Full Sine wave	4.0	A
$I_{TSM}$	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	25/27	A
$I^2t$	$I^2t$	$t_p = 10\text{ms}$	3.1	$\text{A}^2\text{s}$
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125^\circ\text{C}$	0.5	W
$P_{GM}$	Peak Gate Power Dissipation	$T_j = 125^\circ\text{C}$	5	W
$I_{GM}$	Peak Gate Current	$T_j = 125^\circ\text{C}$	2	A
$T_j$	Operating Junction Temperature		- 40 ~ 125	$^\circ\text{C}$
$T_{STG}$	Storage Temperature		- 40 ~ 150	$^\circ\text{C}$

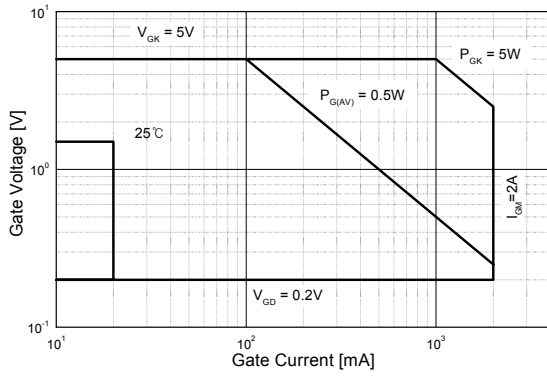


## Electrical Characteristics

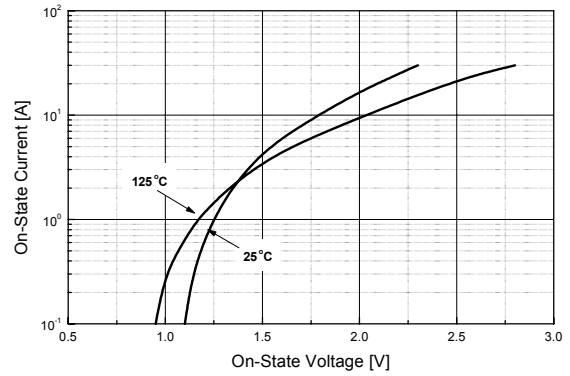
Symbol	Items		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current		$V_D = V_{DRM}$ , Single Phase, Half Wave $T_j = 125\text{ }^\circ\text{C}$	---	---	2.0	mA
$V_{TM}$	Peak On-State Voltage		$I_{TM} = 5.5\text{A}$ , $t_p=380\mu\text{s}$	--	--	1.7	V
$I_{GT1}^+$	I	Gate Trigger Current	$V_D = 12\text{V}$ , $R_L=30\ \Omega$	—	—	5	mA
$I_{GT1}^-$	II			—	-	5	
$I_{GT3}^-$	III			—	-	5	
$I_{GT4}^+$	IV			!!!	!!	10	
$V_{GT1}^+$	I	Gate Trigger Voltage	$V_D = 12\text{V}$ , $R_L=30\ \Omega$	---	---	1.5	V
$V_{GT1}^-$	II			---	---	1.5	
$V_{GT3}^-$	III			—	—	1.5	
$V_{GT4}^+$	IV			---	---	1.5	
$V_{GD}$	Non-Trigger Gate Voltage		$T_j = 125\text{ }^\circ\text{C}$ , $V_D=V_{DRM}$ $R_L=3.3\text{k}\Omega$	0.25	---	—	V
dv/dt	Critical Rate of Rise Off-State Voltage		$T_j = 125\text{ }^\circ\text{C}$ , $V_D=2/3 V_{DRM}$	20	—	—	V/ $\mu\text{s}$
$I_H$	Holding Current		$I_t=0.1\text{A}$	---	---	10	mA



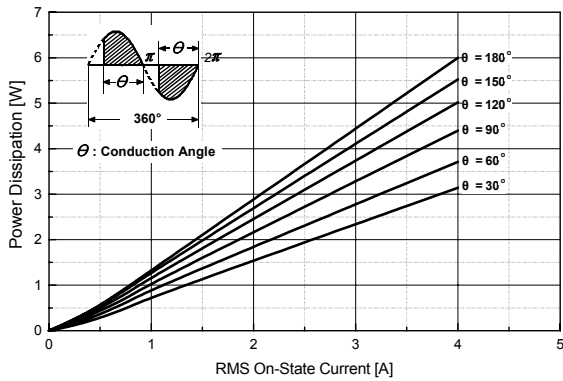
**Fig 1. Gate Characteristics**



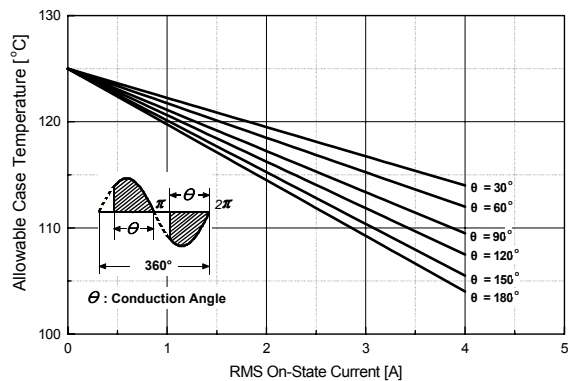
**Fig 2. On-State Voltage**



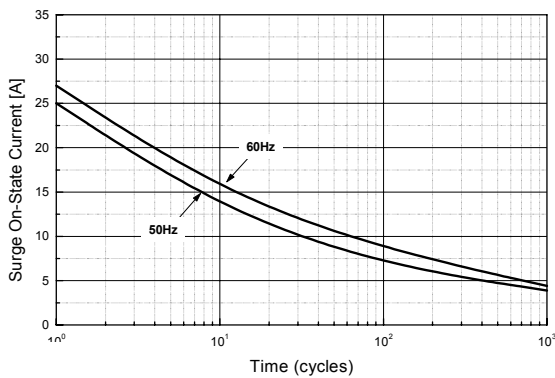
**Fig 3. On State Current vs. Maximum Power Dissipation**



**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**

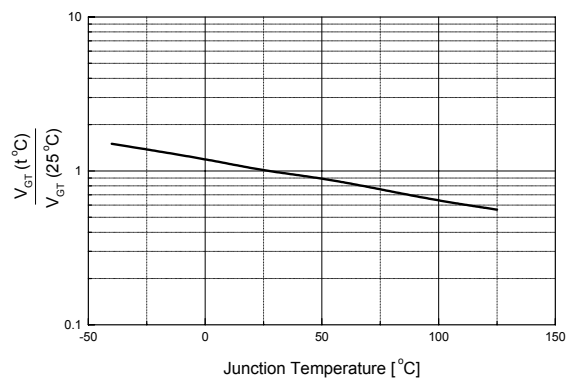




Fig 7. Gate Trigger Current vs. Junction Temperature

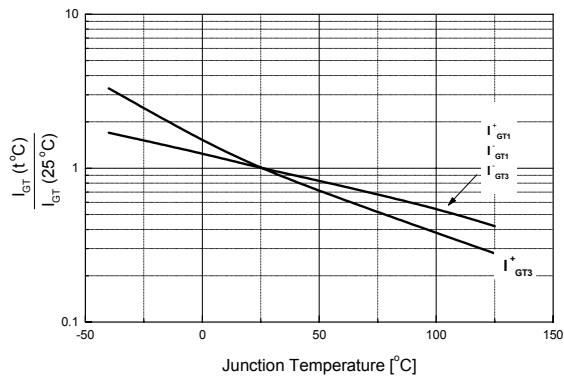
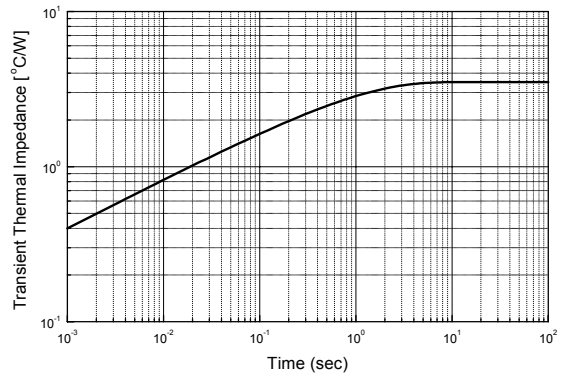


Fig 8. Transient Thermal Impedance





TO-220 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.7		10.1	0.382		0.398
B	6.3		6.7	0.248		0.264
C	9.0		9.47	0.354		0.373
D	12.8		13.3	0.504		0.524
E	1.2		1.4	0.047		0.055
F		1.7			0.067	
G		2.5			0.098	
H	3.0		3.4	0.118		0.134
I	1.25		1.4	0.049		0.055
J	2.4		2.7	0.094		0.106
K	5.0		5.15	0.197		0.203
L	2.2		2.6	0.087		0.102
M	1.25		1.55	0.049		0.061
N	0.45		0.6	0.018		0.024
O	0.6		1.0	0.024		0.039
		3.6			0.142	

