

## Sensitive Gate Triac

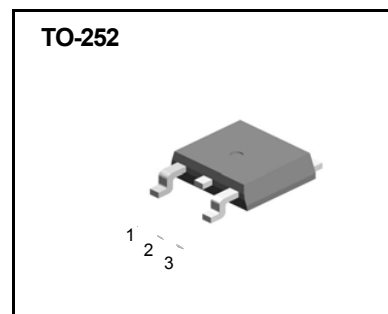
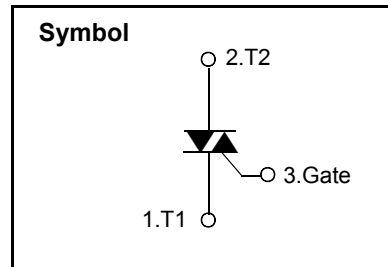
### Features

- ◆ 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.

This device may substitute for T410-600B.



### 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	$^\circ\text{C}$

# TD4A60S

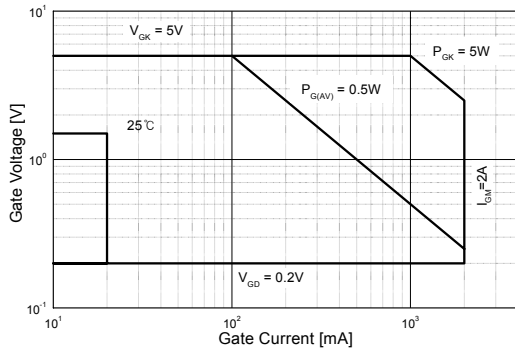


## Electrical Characteristics

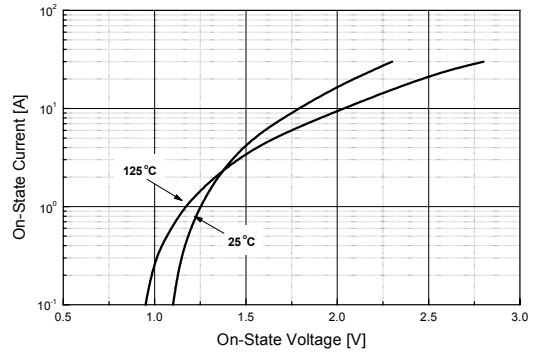
Symbol	Items	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D = V_{DRM}$ , Single Phase, Half Wave $T_j = 125\text{ }^\circ\text{C}$	---	---	2.0	mA
$V_{TM}$	Peak On-State Voltage	$I_{TM} = 5.5\text{A}$ , $t_p = 380\mu\text{s}$	--	--	1.7	V
$I_{GT1}^+$	I		—	—	5	
$I_{GT1}^-$	II	Gate Trigger Current $V_D = 12\text{V}$ , $R_L = 30\ \Omega$	—	—	5	mA
$I_{GT3}^-$	III		—	—	5	
$I_{GT4}^+$	IV		!!!	!!	10	
$V_{GT1}^+$	I		---	---	1.5	
$V_{GT1}^-$	II	Gate Trigger Voltage $V_D = 12\text{V}$ , $R_L = 30\ \Omega$	---	---	1.5	V
$V_{GT3}^-$	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



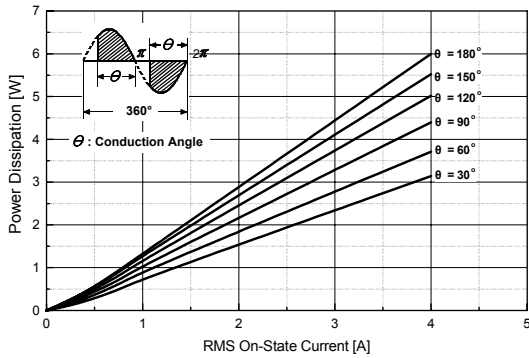
**Fig 1. Gate Characteristics**



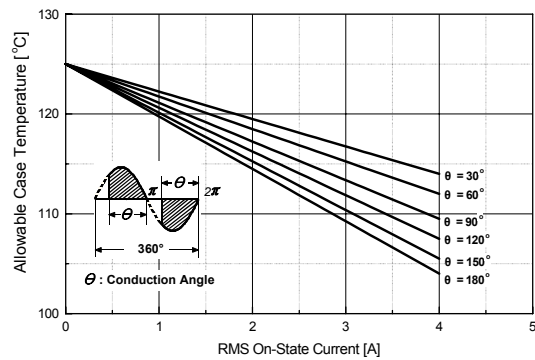
**Fig 2. On-State Voltage**



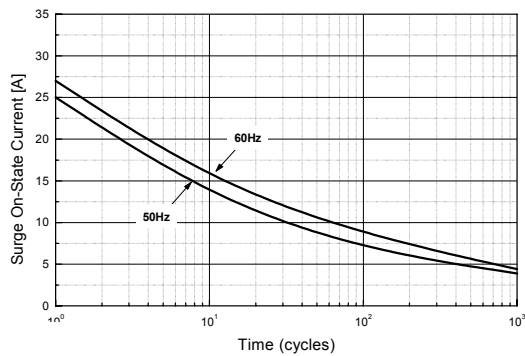
**Fig 3. On State Current vs. Maximum Power Dissipation**



**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**

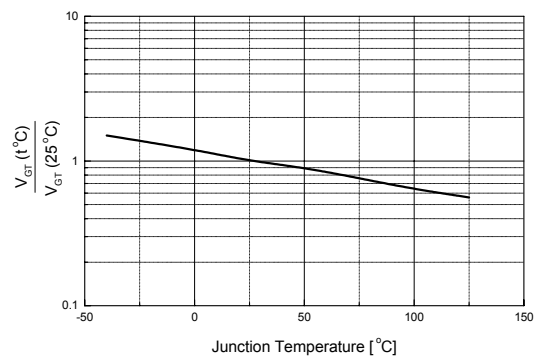




Fig 7. Gate Trigger Current vs. Junction Temperature

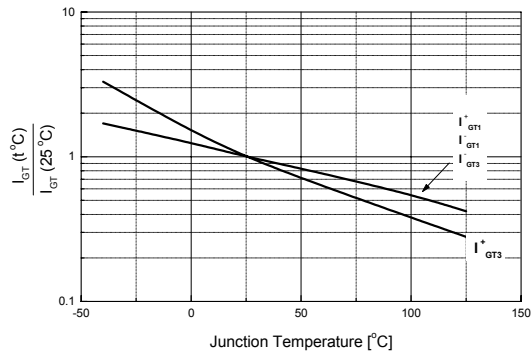
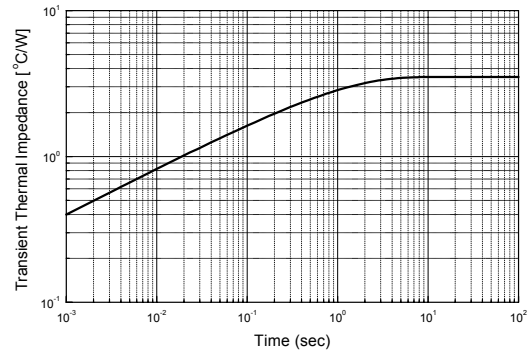


Fig 8. Transient Thermal Impedance





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## TO-252 Package Dimension

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.20	2.40	0.087	0.094
B	1.30	1.50	0.051	0.059
b	0.55	0.65	0.022	0.026
b1	0.46	0.56	0.018	0.022
C	0.46	0.56	0.018	0.022
D	6.40	6.60	0.252	0.260
D1	5.20	5.40	0.205	0.212
E	5.40	5.60	0.212	0.220
e1	2.25	2.35	0.089	0.093
e2	4.50	4.70	0.177	0.185
L1	9.25	9.75	0.346	0.384
L2	0.95	1.45	0.037	0.057

