




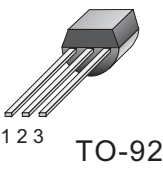
# 1A60

## Sensitive Gate Triacs

HAOPIN MICROELECTRONICS CO.,LTD.

### Description

Passivated, sensitive gate triacs in a plastic envelope, intended for use in general purpose bidirectional switching and phase control applications, where high sensitivity is required in all four quadrants.

<p style="text-align: center;">Symbol</p> 		<p style="text-align: center;">Simplified outline</p> 	
Pin	Description		
1	Main terminal 1(T1)		
2	Gate		
3	Main terminal 2 (T2)		

### Applications:

- ◆ Motor control
- ◆ Industrial and domestic lighting
- ◆ Heating
- ◆ Static switching

### Features

- ◆ Blocking voltage to 600 V
- ◆ On-state RMS current to 1.5 A

SYMBOL	PARAMETER	Value	UNIT
$V_{DRM}$	Repetitive peak off-state voltages	600	V
$I_T (RMS)$	RMS on-state current	1.5	A
$I_{TSM}$	Non-repetitive peak on-state current	15	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th(j-c)}$	Thermal resistance	Junction to case	-	-	50	°C/W
$R_{th(j-a)}$	Thermal resistance	Junction to Ambient	-	-	120	°C/W



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Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{DRM}$	Repetitive peak off-state Voltages		-	600	V
$I_{T(RMS)}$	RMS on-state current	$T_c=58^{\circ}C$	-	1.5	A
$I_{TSM}$	Surge On-State Current	One Cycle,50Hz/60Hz,Peak, Non-Repetitive	-	13.5/15	A
$I^2t$	$I^2t$ for fusing		-	0.41	A <sup>2</sup> S
$I_{GM}$	Peak gate current		-	0.5	A
$V_{GM}$	Peak gate voltage		-	6.0	V
$P_{GM}$	Peak gate power		-	1	W
$P_{G(AV)}$	Average gate power		-	0.1	W
$T_{stg}$	Storage temperature		-40	150	$^{\circ}C$
$T_j$	Operating junction Temperature		-40	125	$^{\circ}C$

$T_j=25^{\circ}C$  unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
$I_{GT}$	Gate trigger current	$V_D=6V; R_L=10\Omega$	$I_{GT1}^+$ I $I_{GT1}^-$ II $I_{GT3}^+$ III $I_{GT3}^-$ IV	- - - -	- - - -	5 5 5 10 mA mA mA mA
$V_{GT}$	Gate Trigger voltage	$V_D=6V; R_L=10\Omega$	$V_{GT1}^+$ I $V_{GT1}^-$ II $V_{GT3}^+$ III $V_{GT3}^-$ IV	- - - -	- - - -	1.8 1.8 1.8 2.0 V V V V
$I_H$	Holding Current		-	4.0	-	mA
$V_{GD}$	Non-Trigger Gate Voltage	$T_j=125^{\circ}C; V_D=1/2V_{DRM}$	0.2	-	-	V
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D=V_{DRM}$ ;single phase, Half Wave; $T_j=125^{\circ}C$	-	-	0.5	mA
$V_{TM}$	Peak On-State Voltage	$I_T=1.5A$ ;Inst,Measurement	-	-	1.6	V

### Dynamic Characteristics

$(dv/dt)_c$	Critical rate of rise off-state	$T_j=125^{\circ}C; (di/dt)_c=-0.5A/ms, V_D=2/3 V_{DRM}$	2	-	-	V/ $\mu$ s
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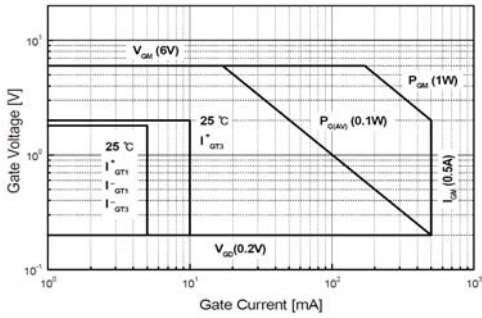


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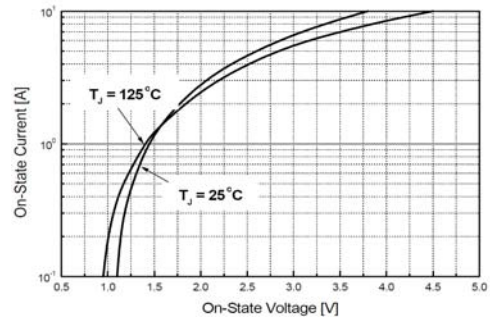
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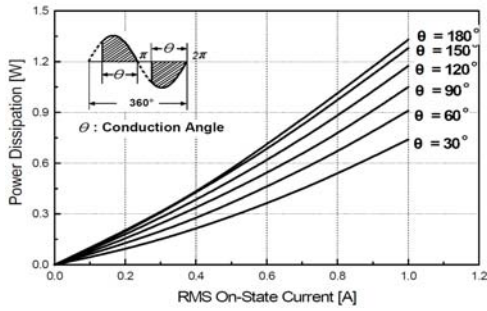
**Fig 1. Gate Characteristics**



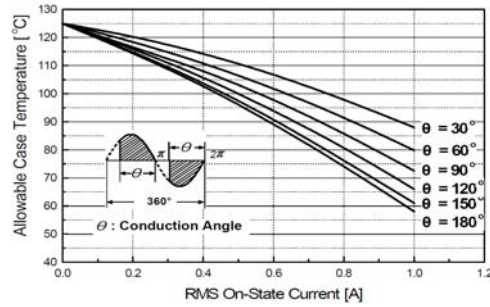
**Fig 2. On-State Voltage**



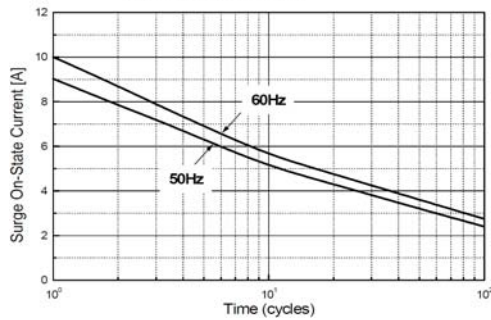
**Fig 3. On State Current vs. Maximum Power Dissipation**



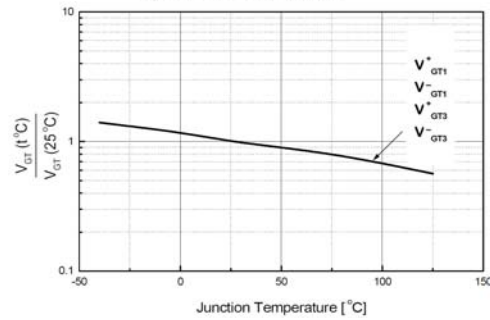
**Fig 4. On State Current vs. Allowable Case Temperature**



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



**Fig 6. Gate Trigger Voltage vs. Junction Temperature**





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Fig 7. Gate Trigger Current vs. Junction Temperature

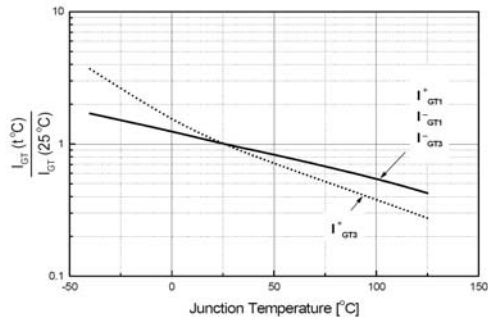
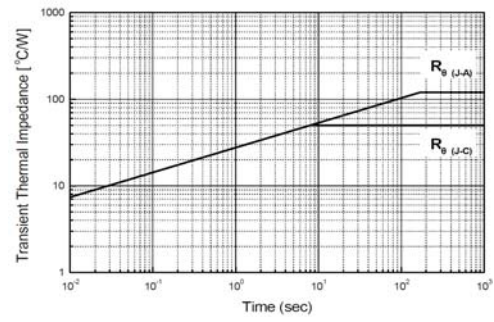


Fig 8. Transient Thermal Impedance





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MECHANICAL DATA

Dimensions in mm

Net Mass: 0.2 g

TO-92

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		1.35			0.053	
B			4.70			0.185
C		2.54			0.100	
D	4.40			0.173		
E	12.70			0.500		
F			3.70			0.146
a			0.50			0.019

