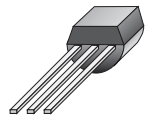
1A60

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.

Symbol	Simplified outline
	

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 to1.5 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
Rth(j-c)	Thermal resistance	Junction to case	-	-	50	℃/W
Rth(j-a)	Thermal resistance	Junction to Ambient	-	-	120	℃/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	Tc=58℃	-	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^2S
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	℃
T_j	Operating junction Temperature		-40	125	℃

T_J=25°C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNIT
Static characteristics							
I_{GT}	Gate trigger current	V_D=6V; R_L=10Ω	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=10Ω	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	Tj=125℃,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℃		-	-	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	Tj=125℃;(di/dt)c=-0.5A/ms, V_D=2/3 V_{DRM}	2	-	-	V/μs

Fig 1. Gate Characteristics

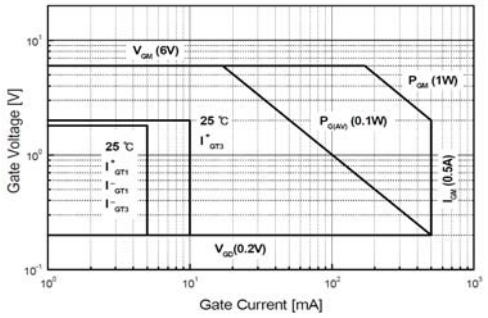


Fig 2. On-State Voltage

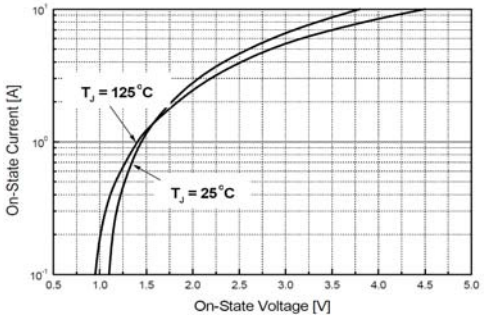


Fig 3. On State Current vs. Maximum Power Dissipation

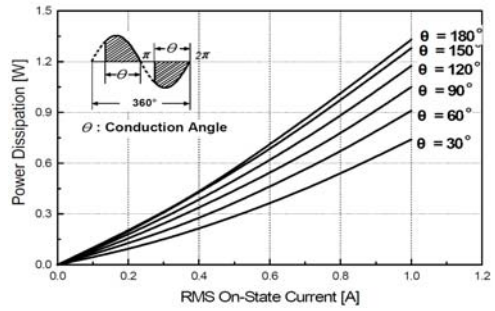


Fig 4. On State Current vs. Allowable Case Temperature

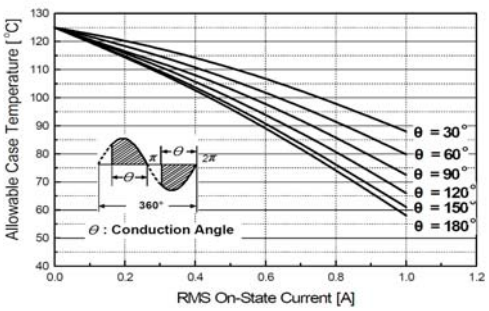


Fig 5. Surge On-State Current Rating (Non-Repetitive)

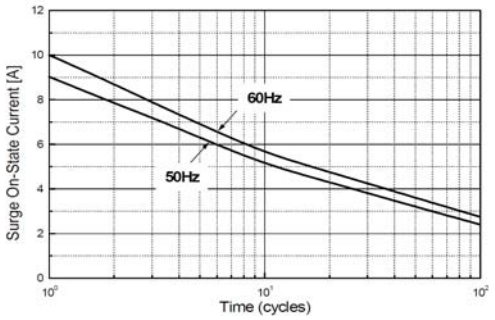


Fig 6. Gate Trigger Voltage vs. Junction Temperature

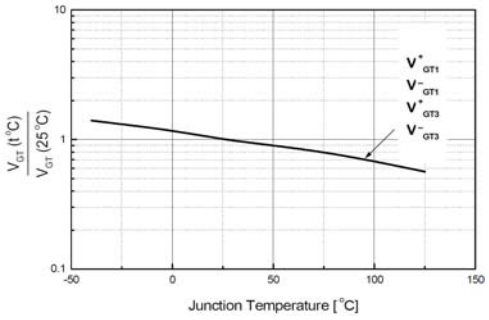


Fig 7. Gate Trigger Current vs. Junction Temperature

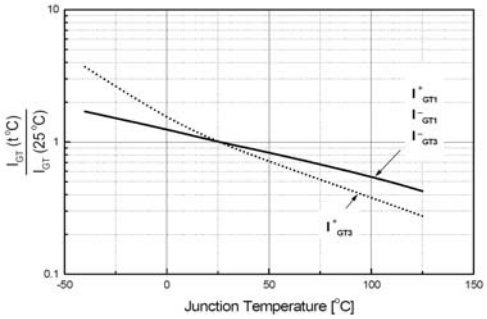
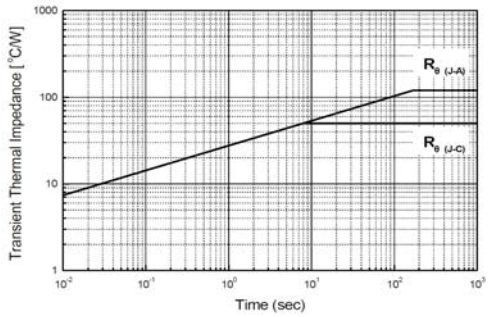


Fig 8. Transient Thermal Impedance



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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