
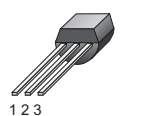


HAOPIN MICROELECTRONICS CO.,LTD.

Description

Glass passivated, sensitive gate thyristors in a plastic envelope, intended for use in general purpose switching and phase control applications. These devices are intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

<p>Symbol</p> 		<p>Simplified outline</p>  <p>TO-92</p>	
Pin	Description		
1	Cathode		
2	anode		
3	gate		
TAB	anode		

Applications:

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

Features

- ◆ Blocking voltage to 400 V
- ◆ On-state RMS current to 0.47 A
- ◆ Ultra low gate trigger current

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	400	V
$I_T (RMS)$	RMS on-state current (full sine wave)	0.47	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)	10	A

SYMBOL	PARAMETER	CONDITIONS	Min	TYP	MAX	UNIT
$R_{th(j-a)}$	Junction to ambient		-	-	180	°C/W
$R_{th(j-l)}$	Junction to lead for DC		-	-	-	°C/W

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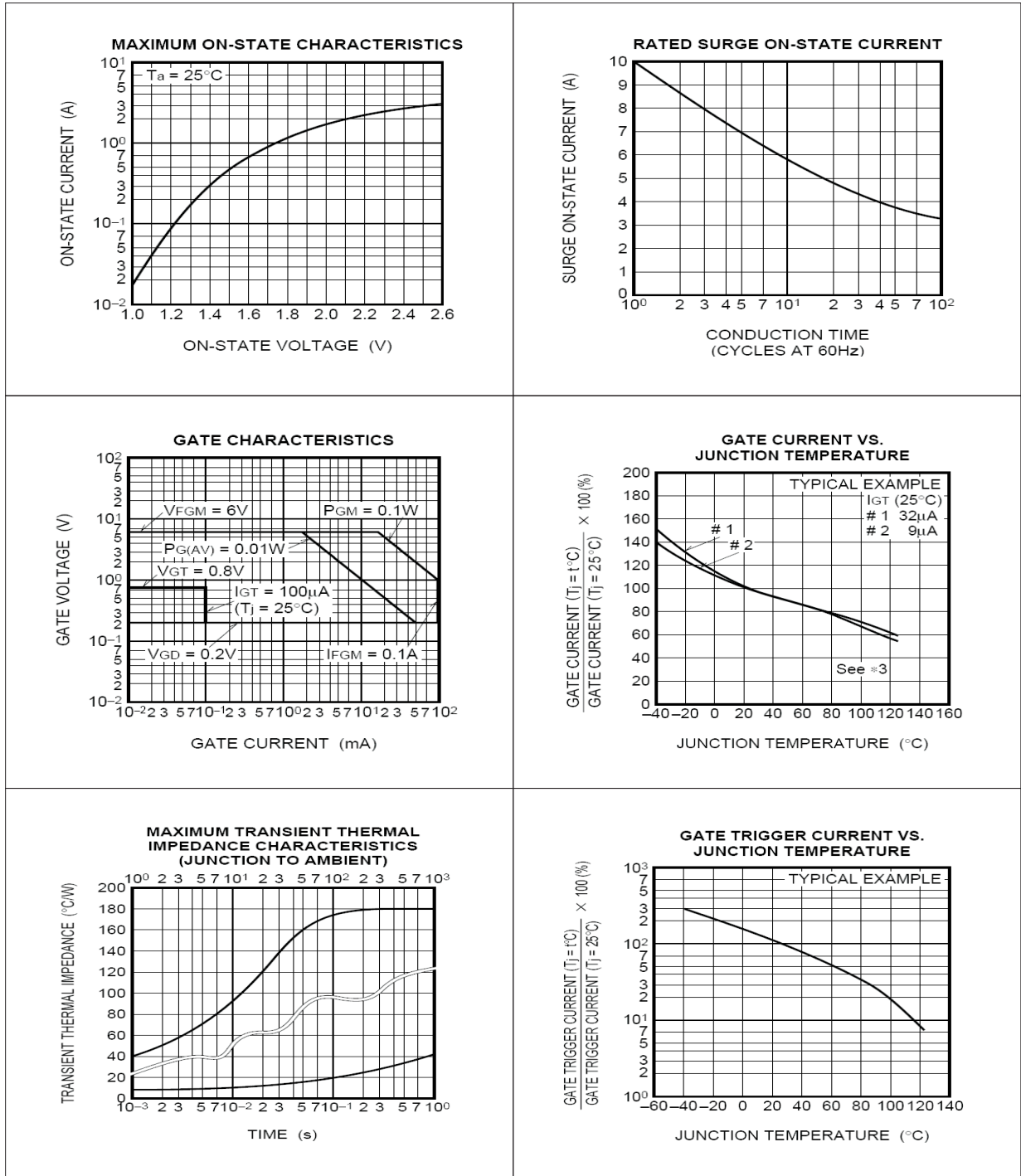
Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN	Value	UNIT
V_{RRM}	Repetitive peak reverse voltage		-	400	V
$I_{T(RMS)}$	RMS on-state current		-	0.47	A
$I_{T(AV)}$	Average On-state current (180° conduction angle)	$T_a=30^{\circ}\text{C}$	-	0.3	A
I^2t	I^2t for fusing	$T=8.3\text{ msec}$	-	0.4	A^2s
I_{TSM}	Surge on-state current	60Hz	-	10	A
			-	-	A
$P_{G(AV)}$	Average gate power dissipation		-	0.01	W
T_j	Junction temperature		-40	125	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-40	125	$^{\circ}\text{C}$
P_{GM}	Peak gate power dissipation		-	0.1	W

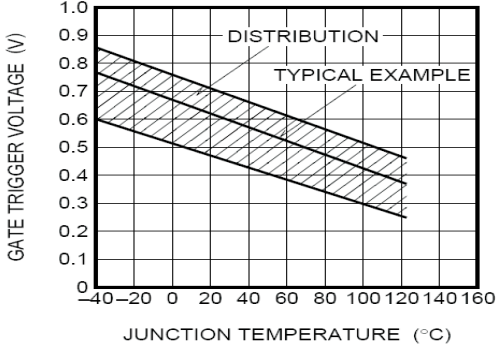
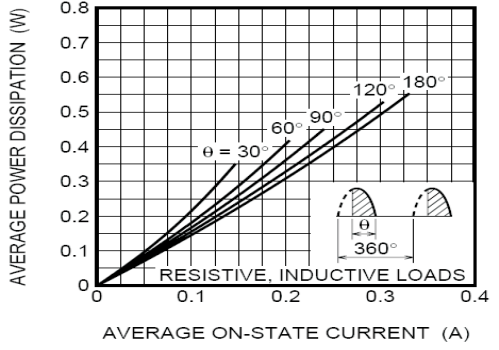
$T_j=25^{\circ}\text{C}$ unless otherwise stated

SYMBOL	TEST	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	Gate trigger current	$T_j=25^{\circ}\text{C}, V_D=6\text{V}, R_L=60\ \Omega$	1	-	100	μA
V_{GT}	Gate trigger voltage	$T_j=25^{\circ}\text{C}, V_D=6\text{V}, R_L=60\ \Omega$	-	-	0.8	V
V_{GD}	Gate non-trigger voltage	$T_j=125^{\circ}\text{C}, V_D=1/2V_{DRM}, R_{GK}=1\text{K}\ \Omega$	0.2	-	-	V
V_{TM}	On-state voltage	$T_a=25^{\circ}\text{C}, i_{tm}=0.6\text{A}, \text{instantaneous value}$	-	-	1.6	V
I_H	Holding current	$T_j=25^{\circ}\text{C}, V_D=12\text{V}, R_{GK}=1\text{K}\ \Omega$	-	-	3	mA
I_{DRM}	Repetitive peak off-state current	$T_j=125^{\circ}\text{C}, V_{DRM}$ applied, $R_{GK}=1\text{K}\ \Omega$	-	-	0.1	mA
I_{RRM}	Repetitive peak reverse current	$T_j=125^{\circ}\text{C}, V_{RRM}$ applied	-	-	0.1	
I_{FGM}	Peak gate forward current		-	-	0.1	A

Description



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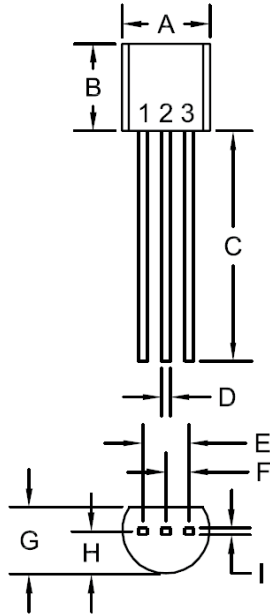
<p style="text-align: center;">GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE</p> 	<p style="text-align: center;">MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE HALF WAVE)</p> 

MECHANICAL DATA

Dimensions in mm

Net Mass:0.2 g

TO-92



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

R1