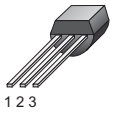
XL1225

SCRs

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.

Symbol	Simplified outline
	 TO-92

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 0.8 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）	0.8	A
$I_{T(AV)}$	Average on-state current	0.5	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{\theta jc}$	Thermal resistance Junc. To case			-	75	℃/W
$R_{\theta ja}$	Thermal resistance Junc. To amb			-	200	℃/W

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{DRM}	Repetitive peak off-state Voltages	T_J=40°C to 125℃(R_{GK}=1K)	-	400	V
$I_{T(RMS)}$	RMS on-state current	Tc=40℃	-	0.8	A
$I_{T(AV)}$	Averagev On-state Current	Haif Cycle=180° Tc=40℃	-	0.5	A
V_{GRM}	Reverse peak gate voltage	I_{GR}=10mA;	8	-	V
I_{GFM}	Peak gate current	300μs 120 pps,T_A=25℃	1	-	A
T_{sld}	Soldering temperature	1.6mm from case 10s max	-	-	℃
$P_{GF(AV)}$	Average gate power		-	250	W
T_{stg}	Storage temperature		-40	0.01	℃
T_j	Operating junction Temperature		-40	125 125	℃

T_J=25°C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	Gate trigger current	Anode Voltage=7 Vdc,RL=100 Ohms Tc=25℃	-	-	200	μA
V_{TM}	Forward On- voltage	ITM=1A peak@Ta=25℃	-	-	1.7	V
					2.2	V
I_H	Holding Current	Tc=25℃	-	-	5	mA
		Tc=-40℃	-	-	10	mA
I_{DRM} I_{RRM}	Peak Forward or Reverse Blocking Current	Tc=125℃ Tc=25℃	- -		100 1	μA
VT(TO)	On-state Threshold voltage					V

Dynamic Characteristics

t_{gd}	Gate controlled delay tine	IG=10mA,dI_G/dt=0.1A/us	-	-	2.2	μs
t_g	commutated tum-off time	V_D=0.67VDRM, Tj=85℃; IT=IT(AV), V_R=35V;	-	-	200	μs

Description

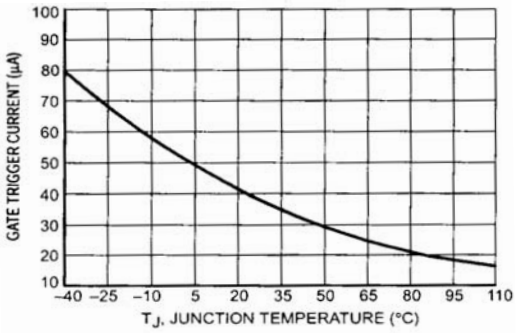


Figure 1. Typical Gate Trigger Current versus Junction Temperature

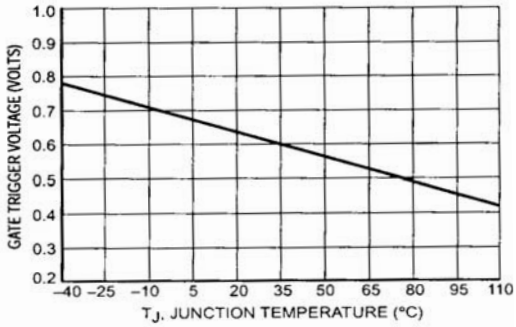


Figure 2. Typical Gate Trigger Voltage versus Junction Temperature

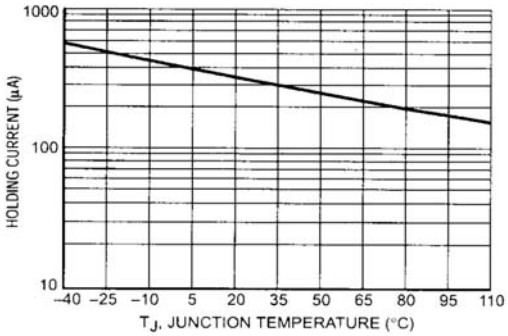


Figure 3. Typical Holding Current versus Junction Temperature

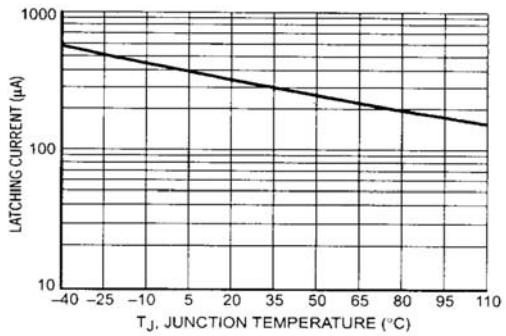


Figure 4. Typical Latching Current versus Junction Temperature

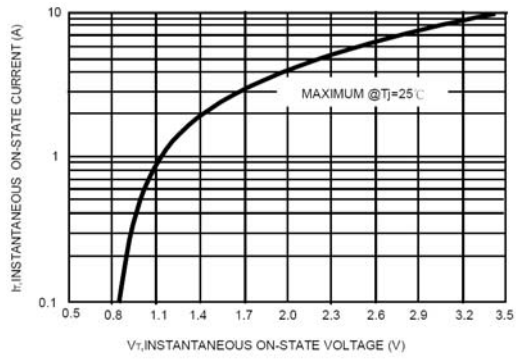


Figure 5. Typical On-State Characteristics

MECHANICAL DATA

Dimensions in mm

Net Mass:0.2 g

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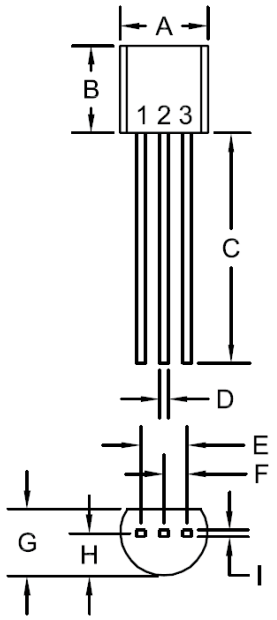

R1

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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	

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