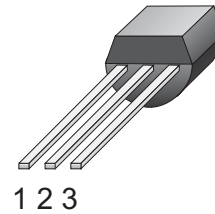


**Simplified outline**
**TO-92**

**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.

**Features**

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

**Applications**

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

**Symbol**


Pin	Description
1	cathode
2	anode
3	gate
TAB	anode

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

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

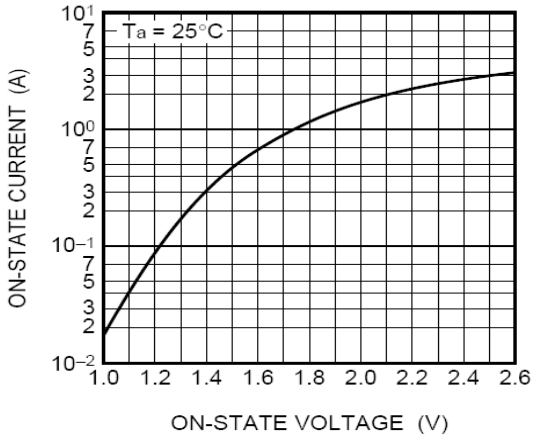
SYMBOL	PARAMETER	CONDITIONS	MIN	Value	UNIT
$V_{RRM}$	Repetitive peak reverse voltage		-	400	V
$I_{T(RMS)}$	RMS on-state current		-	0.47	A
$I_{T(AV)}$	Average On-state current (180° conduction angle)	$T_a=30^{\circ}\text{C}$	-	0.3	A
$I^2t$	$I^2t$ for fusing	$T=8.3\text{ msec}$	-	0.4	$\text{A}^2\text{s}$
$I_{TSM}$	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**

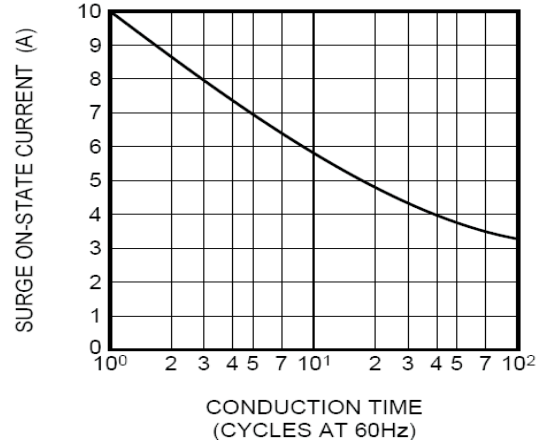
SYMBOL	TEST	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
$I_{GT}$	Gate trigger current	$T_j=25^{\circ}\text{C}, V_D=6\text{V}, R_L=60\ \Omega$	1	-	100	$\mu\text{A}$
$V_{GT}$	Gate trigger voltage	$T_j=25^{\circ}\text{C}, V_D=6\text{V}, R_L=60\ \Omega$	-	-	0.8	V
$V_{GD}$	Gate non-trigger voltage	$T_j=125^{\circ}\text{C}, V_D=1/2V_{DRM}, R_{GK}=1\text{K}\ \Omega$	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

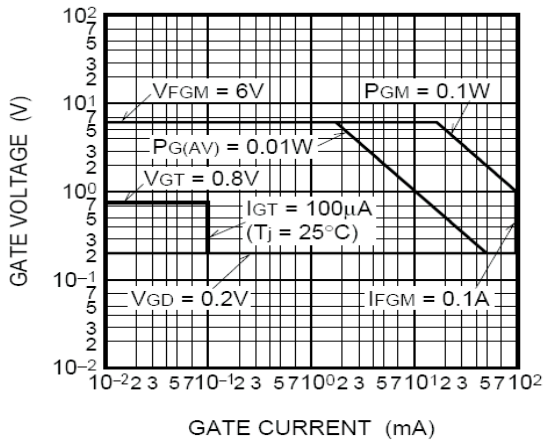
**MAXIMUM ON-STATE CHARACTERISTICS**



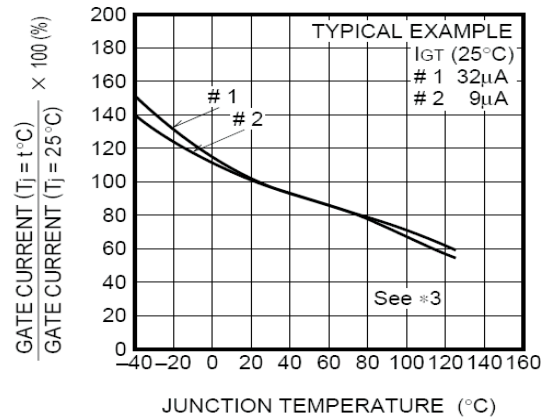
**RATED SURGE ON-STATE CURRENT**



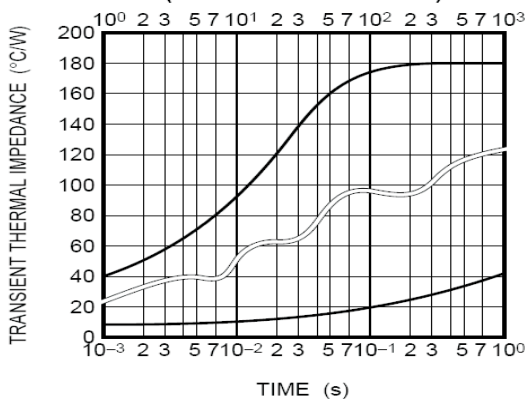
**GATE CHARACTERISTICS**



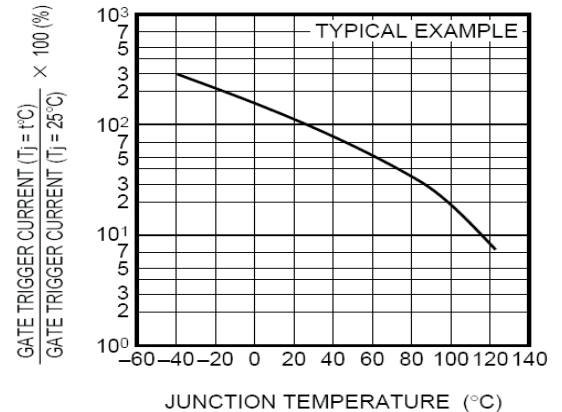
**GATE CURRENT VS. JUNCTION TEMPERATURE**



**MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION TO AMBIENT)**

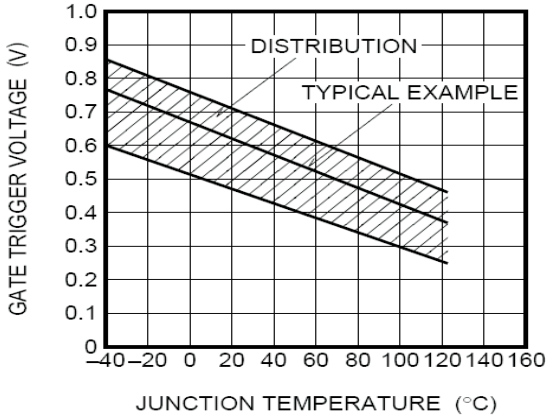


**GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE**

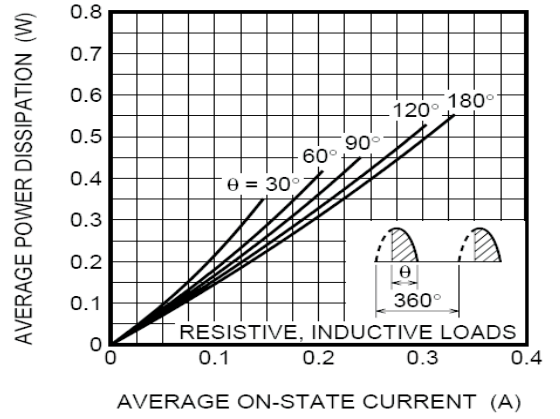


**Description**

**GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE**



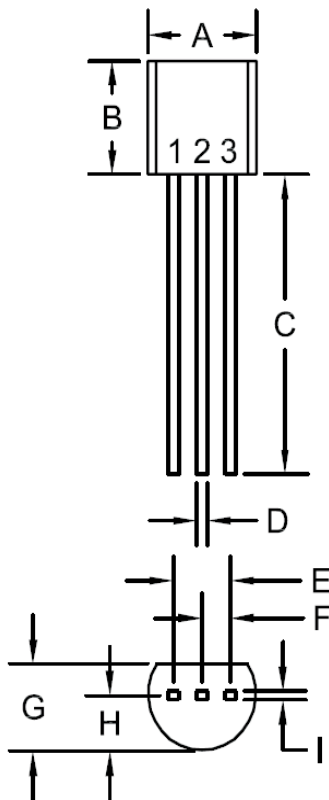
**MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE HALF WAVE)**



**Mechanical Data**

Dimensions in mm

Net Mass:0.2 g

**TO-92**


SYMBOL	DIMENSIONS			
	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	