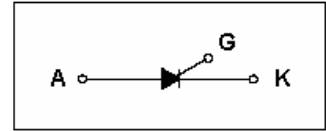


Silicon Controlled Rectifier

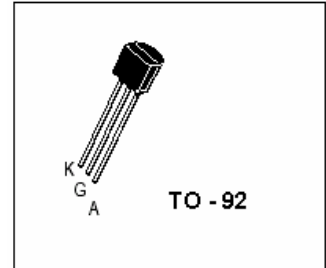
■ Features

- * Repetitive Peak Off-State Voltage : 600V
- * R.M.S On-State Current($I_{T(RMS)}=1.5A$)
- * Low On-State Voltage (1.2V(Typ.)@ I_{TM})



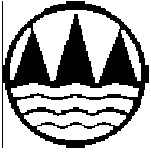
■ General Description

Sensitive triggering SCR is suitable for the application where gate current limited such as small motor control, gate driver for large SCR, sensing and detecting circuits.



■ Absolute Maximum Ratings ($T_a=25^{\circ}C$ unless otherwise specified)

T_{stg}	Storage Temperature	-----	-40~125 $^{\circ}C$
T_j	Operating Junction Temperature	-----	-40~125 $^{\circ}C$
V_{DRM}	Repetitive Peak Off-State Voltage	-----	600V
I_T (RMS)	R.M.S On-State Current (180 $^{\circ}$ Conduction Angles)	-----	1.5A
$I_{T(AV)}$	Average On-State Current (Half Sine Wave : $T_C = 45^{\circ}C$)	-----	1.0A
I_{TSM}	Surge On-State Current (1/2 Cycle, 60Hz, Sine Wave, Non-repetitive)	-----	15A
I^2t	Circuit Fusing Considerations($t = 8.3ms$)	-----	0.9A 2s
P_{GM}	Forward Peak Gate Power Dissipation ($T_a=25^{\circ}C$)	-----	2W
$P_{G(AV)}$	Forward Average Gate Power Dissipation ($T_a=25^{\circ}C$, $t=8.3ms$)	-----	0.1W
I_{FGM}	Forward Peak Gate Current	-----	1A
V_{RGM}	Reverse Peak Gate Voltage	-----	5V



Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

Symbol	Items	Min.	Typ.	Max.	Unit	Conditions
I_{DRM}	Repetitive Peak Off-State Current			10 200	μA	$V_{AK}=V_{DRM}$ $T_a=25^\circ\text{C}$ $T_a=125^\circ\text{C}$
V_{TM}	Peak On-State Voltage (1)		1.2	1.7	V	$I_{TM}=3\text{A, PEAK}$
I_{GT}	Gate Trigger Current (2)			200 500	μA	$V_{AK}=6\text{V(DC)}$, $R_L=100\ \text{ohm}$ $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
V_{GT}	Gate Trigger Voltage (2)			0.8 1.2	V	$V_{AK}=7\text{V(DC)}$, $R_L=100\ \text{ohm}$ $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
V_{GD}	Non-Trigger Gate Voltage	0.2			V	$V_{AK}=12\text{V}$, $R_L=100\ \text{ohm}$ $T_a=125^\circ\text{C}$
I_H	Holding Current		2.0	5.0 10	mA	$I_T=100\text{mA}$, Gate open, $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
$R_{th(j-c)}$	Thermal Resistance			50	$^\circ\text{C/W}$	Junction to Case
$R_{th(j-a)}$	Thermal Resistance			160	$^\circ\text{C/W}$	Junction to Ambient
dv/dt	Critical Rate of Rise Off-state Voltage	200			V/ μs	$V_D=V_{DRM}67\%$ exponential Waveform $R_{jk}=1\text{Kohm}$ $T_j=125^\circ\text{C}$

1. Forward current applied for 1 ms maximum duration, duty cycle $\leq 1\%$.
2. R_{GK} current is not included in measurement.

Performance Curves

FIGURE 1 – Gate Characteristics

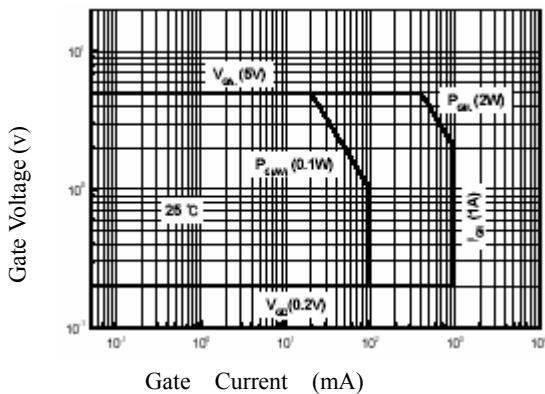
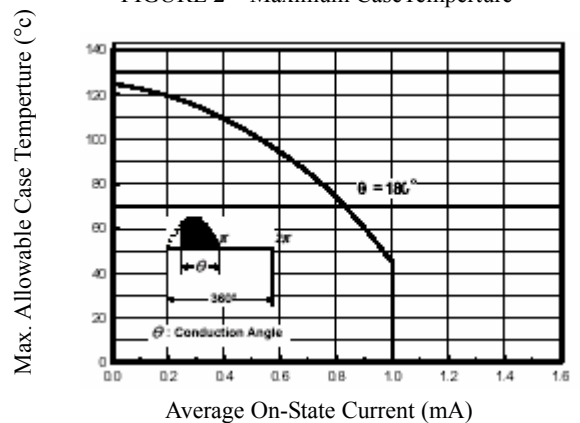


FIGURE 2 – Maximum Case Temperature



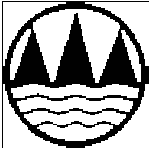


FIGURE 3-Typical Forward Voltage(V)

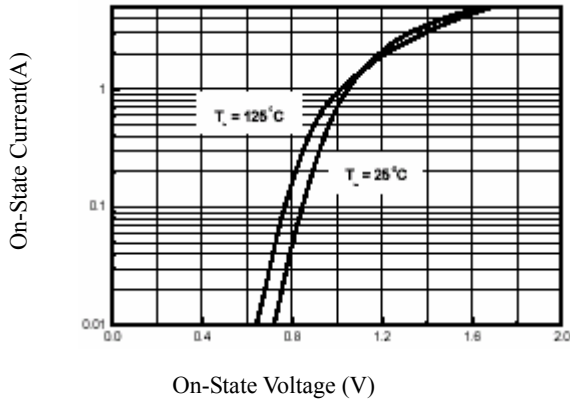


FIGURE 4-Thermal Response

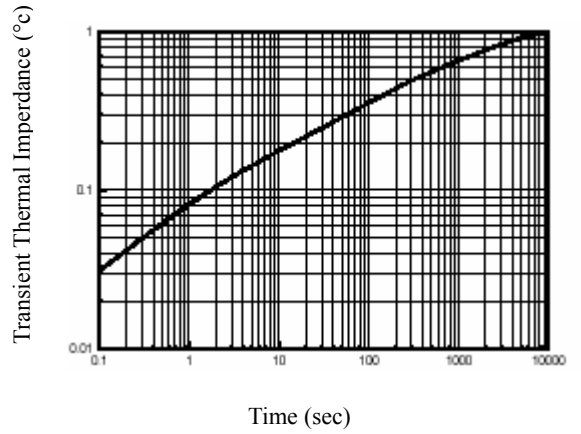


FIGURE 5-Typical Gate Trigger Voltage VS Junction Temperature

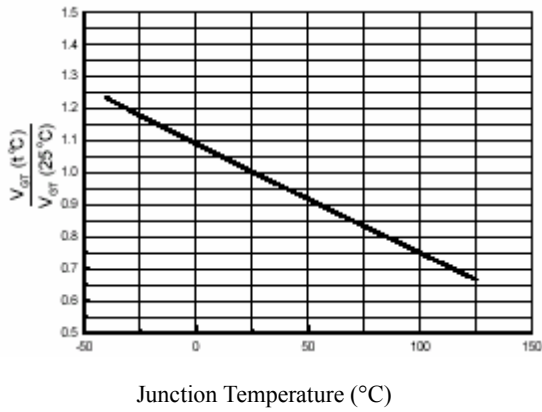


FIGURE 6-Typical Gate Trigger Current VS Junction Temperature

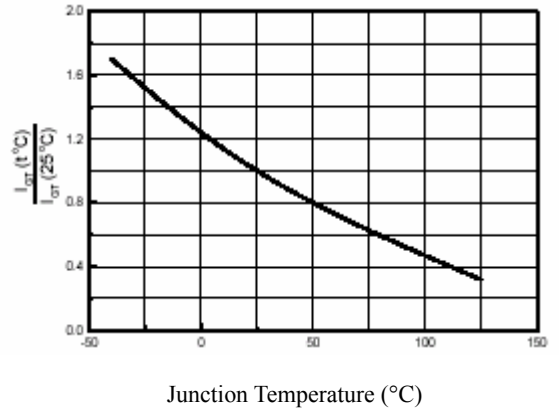


FIGURE 7-Typical Holding Current

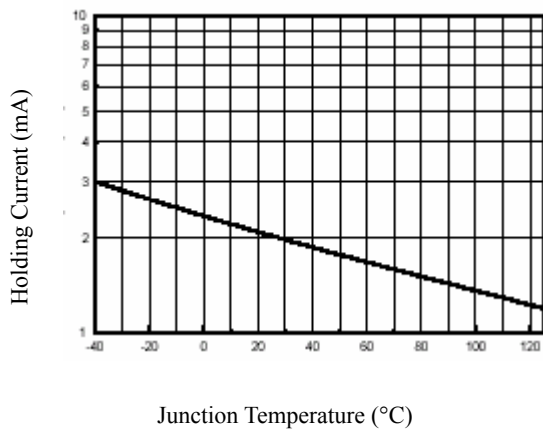


FIGURE 8-Power Dissipation

