

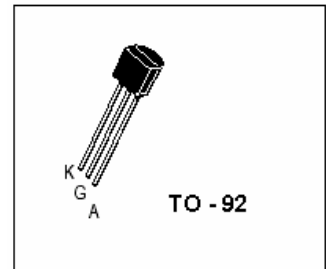
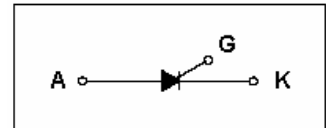
Silicon Controlled Rectifier

■ 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})

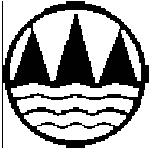
■ General Description

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

T_{stg}	Storage Temperature	-40~125 $^\circ\text{C}$
T_j	Operating Junction Temperature	-40~125 $^\circ\text{C}$
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 : $T_C = 45^\circ\text{C}$)	1.0A
I_{TSM}	Surge On-State Current (1/2 Cycle, 60Hz, Sine Wave, Non-repetitive)	15A
I^2t	Circuit Fusing Considerations($t = 8.3\text{ms}$)	0.9A ^2s
P_{GM}	Forward Peak Gate Power Dissipation ($T_a=25^\circ\text{C}$)	2W
$P_{G(AV)}$	Forward Average Gate Power Dissipation ($T_a=25^\circ\text{C}$, $t=8.3\text{ms}$)	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	$V_{\text{AK}}=V_{\text{DRM}}$ $T_a=25^\circ\text{C}$ $T_a=125^\circ\text{C}$
V_{TM}	Peak On-State Voltage (1)		1.2	1.7	V	$I_{\text{TM}}=3\text{A, PEAK}$
I_{GT}	Gate Trigger Current (2)			200 500	μA	$V_{\text{AK}}=6\text{V(DC)}$, $R_L=100\text{ ohm}$ $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
V_{GT}	Gate Trigger Voltage (2)			0.8 1.2	V	$V_{\text{AK}}=7\text{V(DC)}$, $R_L=100\text{ ohm}$ $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
V_{GD}	Non-Trigger Gate Voltage	0.2			V	$V_{\text{AK}}=12\text{V}$, $R_L=100\text{ ohm}$ $T_a=125^\circ\text{C}$
I_{H}	Holding Current		2.0	5.0 10	mA	$I_{\text{T}}=100\text{mA}$, Gate open, $T_a=25^\circ\text{C}$ $T_a=-40^\circ\text{C}$
$R_{\text{th(j-c)}}$	Thermal Resistance			50	$^\circ\text{C/W}$	Junction to Case
$R_{\text{th(j-a)}}$	Thermal Resistance			160	$^\circ\text{C/W}$	Junction to Ambient
dv/dt	Critical Rate of Rise Off-state Voltage	200			$\text{V}/\mu\text{s}$	$V_{\text{D}}=V_{\text{DRM}}67\%$ exponential Waveform $R_{\text{jk}}=1\text{Kohm}$ $T_{\text{j}}=125^\circ\text{C}$

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

Performance Curves

FIGURE 1 – Gate Characteristics

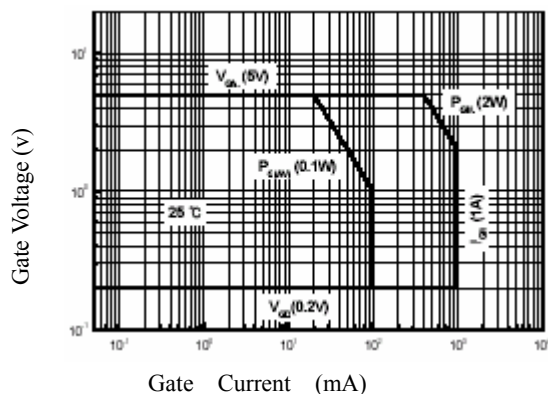
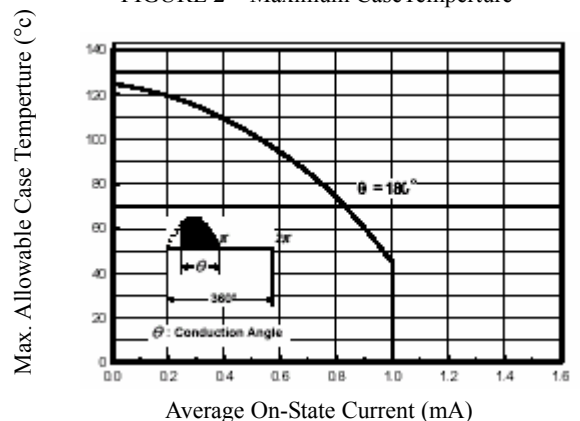


FIGURE 2 – Maximum Case Temperature



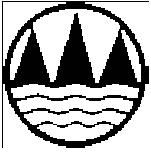


FIGURE 3-Typical Forward Voltage(V)

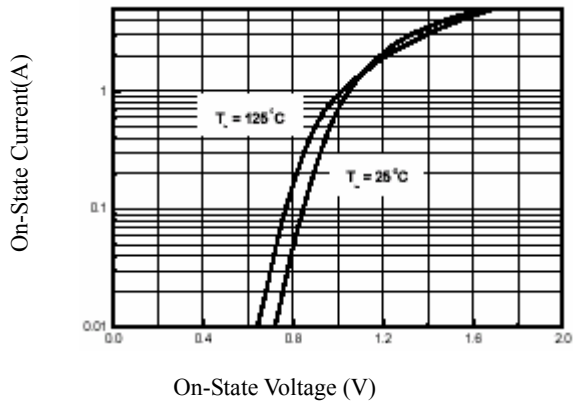


FIGURE 4-Thermal Response

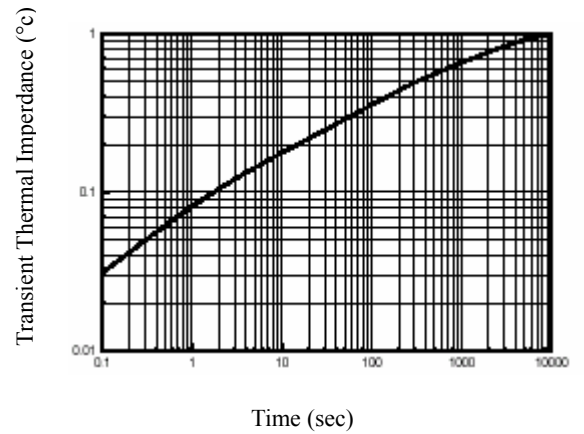


FIGURE 5-Typical Gate Trigger Voltage VS Junction Temperature

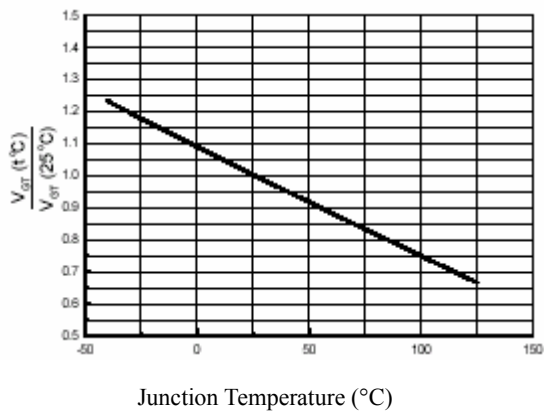


FIGURE 6-Typical Gate Trigger Current VS Junction Temperature

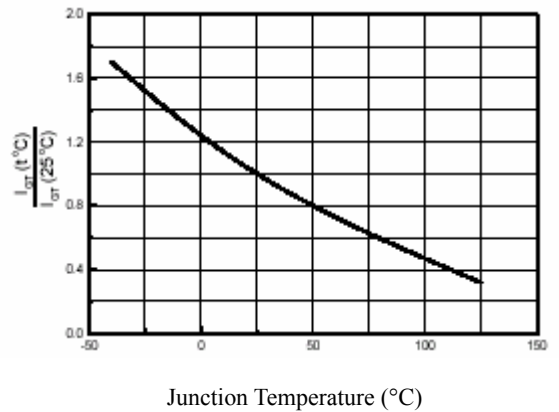


FIGURE 7-Typical Holding Current

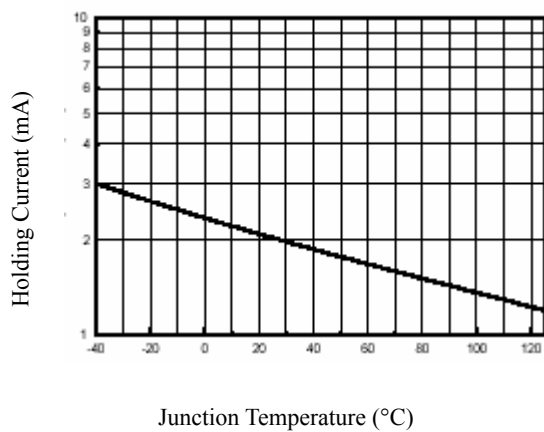


FIGURE 8-Power Dissipation

