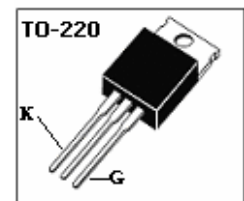
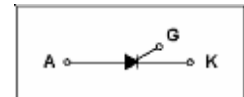




Silicon Controlled Rectifier

Features

- * Repetitive Peak Off-State Voltage : 600V
- * R.M.S On-State Current($I_{T(RMS)}=10A$)
- * Low On-State Voltage (1.4V(Typ.)@ I_{TM})
- * Non-isolated Type



General Description

Standard gate triggering SCR is suitable for the application where requiring high bi-directional blocking voltage capability and also suitable for over voltage protection, motor control circuit in power tool, inrush current limit circuit and heating control system.

Absolute Maximum Ratings ($T_a=25$ unless otherwise specified)

T_{stg} — Storage Temperature	-----	-40~125
T_j — Operating Junction Temperature	-----	-40~125
V_{DRM} — Repetitive Peak Off-State Voltage	-----	600V
I_T (RMS) — R.M.S On-State Current (180° Conduction Angles)	-----	10A
$I_{T(AV)}$ — Average On-State Current (Half Sine Wave : $T_C = 111$ °C)	-----	6.4A
I_{TSM} — Surge On-State Current (1/2 Cycle, 60Hz, Sine Wave, Non-repetitive)	-----	110A
I^2t — Circuit Fusing Considerations($t = 8.3ms$)	-----	60A ² s
P_{GM} — Forward Peak Gate Power Dissipation ($T_a=25$)	-----	5W
$P_{G(AV)}$ — Forward Average Gate Power Dissipation ($T_a=25$, $t=8.3ms$)	-----	0.5W
I_{FGM} — Forward Peak Gate Current	-----	2A
V_{RGM} — Reverse Peak Gate Voltage	-----	5V



Electrical Characteristics ($T_a=25$ unless otherwise specified)

Symbol	Items	Min.	Typ.	Max.	Unit	Conditions
I_{DRM}	Repetitive Peak Off-State Current			10 200	μA	$V_{AK}=V_{DRM}$ $T_a=25$ $T_a=125$
V_{TM}	Peak On-State Voltage (1)			1.6	V	$I_{TM}=20A, tp=380\mu s$
I_{GT}	Gate Trigger Current (2)			15	mA	$V_{AK} =6V(DC), R_L=10 \text{ ohm}$
V_{GT}	Gate Trigger Voltage (2)			1.5	V	$V_{AK} =6V(DC), R_L=10 \text{ ohm}$ $T_a=25$
V_{GD}	Non-Trigger Gate Voltage	0.2			V	$V_{AK} =12V, R_L=100 \text{ ohm}$ $T_a=125$
I_H	Holding Current			20	mA	$I_T=100mA, \text{Gate open,}$ $T_a=25$
$R_{th(j-c)}$	Thermal Resistance			1.3	/W	Junction to Case
$R_{th(j-a)}$	Thermal Resistance			60	/W	Junction to Ambient
dv/dt	Critical Rate of Rise Off-state Voltage	200			V/ μs	Linear slope up to $V_D=V_{DRM}67\%$ Gate open $T_j=125$

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

Performance Curves

FIGURE 1 – Gate Characteristics

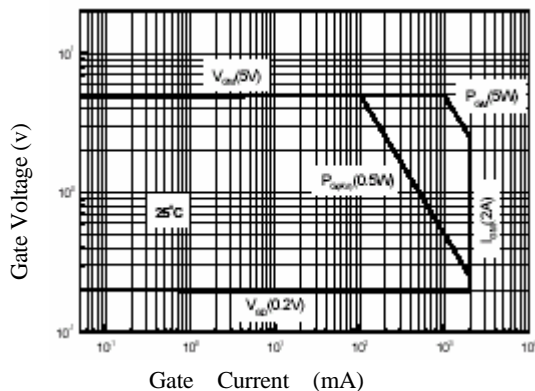


FIGURE 2 – Maximum Case Temperature

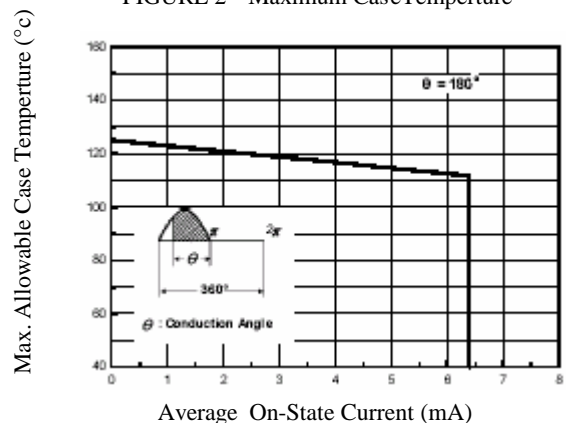




FIGURE 3-Typical Forward Voltage(V)

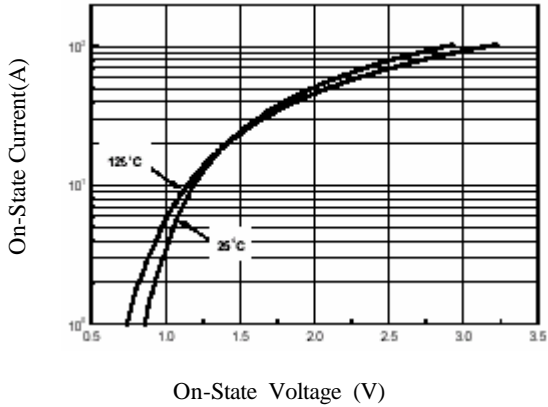


FIGURE 4-Thermal Response

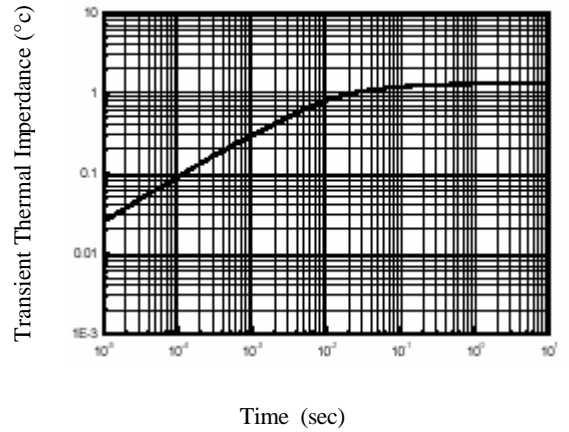


FIGURE 5-Typical Gate Trigger Voltage VS Junction Temperature

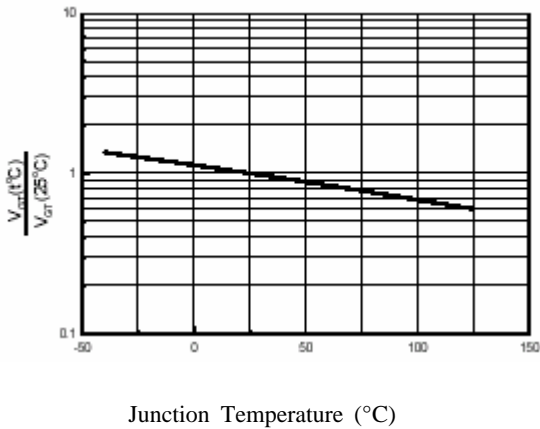


FIGURE 6-Typical Gate Trigger Current VS Junction Temperature

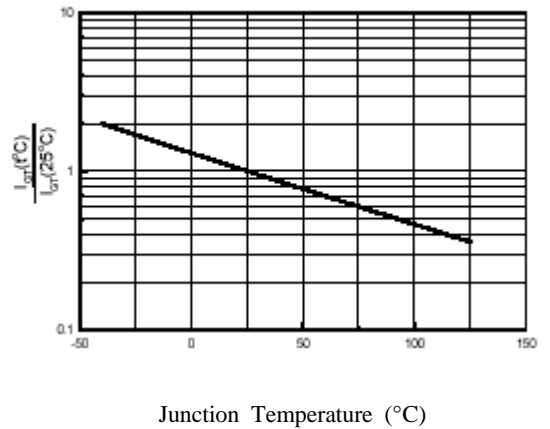


FIGURE 7-Typical Holding Current

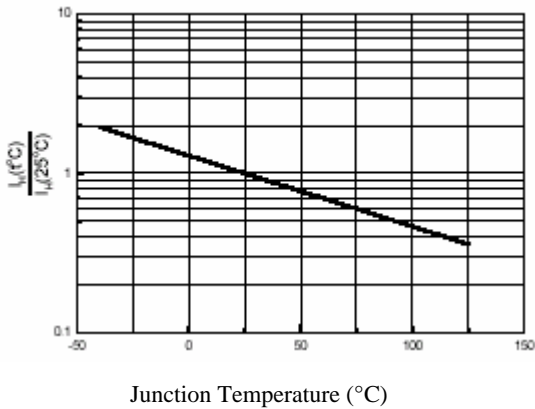


FIGURE 8-Power Dissipation

