

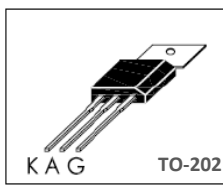
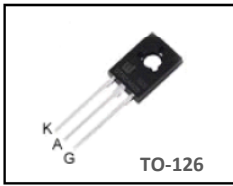
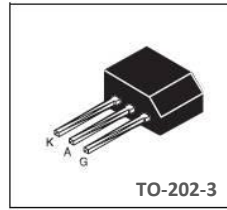
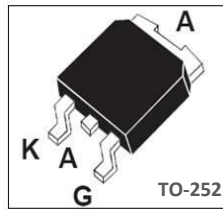
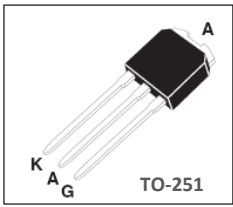
GENERAL DESCRIPTION

Glass passivated thyristors in a plastic envelope, intended for use in applications requiring high bidirectional blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.

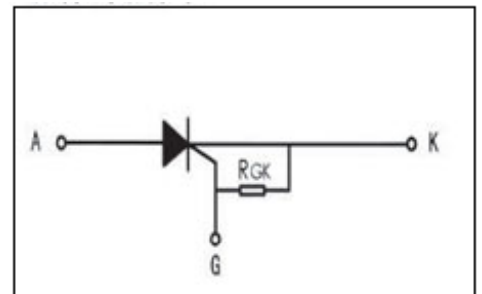
MAIN CHARACTERISTICS

SYMBOL	PARAMETER	MAX.	UNIT
V_{DRM} , V_{RRM}	Repetitive peak off-state voltages	600	V
$I_{T(AV)}$	Average on-state current	3.3	A
$I_{T(RMS)}$	RMS on-state current	5	A
I_{TSM}	Non-repetitive peak on-state current	36	A

PIN CONFIGURATION



SYMBOL



Absolute Maximum Ratings ($T_J = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	-	600	V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave : $TC = 111^\circ C$	3.3	A
$I_{T(RMS)}$	R.M.S On-State Current	180° Conduction Angle	5	A
I_{TSM}	Surge On-State Current	1/2 Cycle, 60Hz, Sine Wave Non-Repetitive	36	A
I^2t	I^2t for Fusing	$t = 10ms$	6.5	A^2s
P_{GM}	Forward Peak Gate Power Dissipation	-	1	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	Over any 20ms period	0.2	W
I_{GM}	Peak Gate Current	-	1.2	A
V_{RGM}	Reverse Peak Gate Voltage	-	5	V
T_J	Operating Junction Temperature	-	- 40 ~ 125	$^\circ C$
T_{STG}	Storage Temperature	-	- 40 ~ 150	$^\circ C$

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

Symbol	Items	Conditions	Ratings		Unit
			Min.	Max.	
I_{DRM}	Repetitive Peak Off-State Current	$V_{AK} = V_{DRM}$ $T_c = 25^\circ\text{C}$ $T_c = 110^\circ\text{C}$	— —	5 100	μA
V_{TM}	Peak On-State Voltage (1)	$I_{TM} = 10\text{A}$ $t_p = 380\mu\text{s}$	—	1.7	V
I_{GT}	Gate Trigger Current (2)	$V_{AK} = 12\text{V(DC)}$, $R_L = 30\Omega$ $T_c = 25^\circ\text{C}$	20	60	μA
V_{GT}	Gate Trigger Voltage (2)	$V_D = 12\text{V(DC)}$, $R_L = 30\Omega$ $T_c = 25^\circ\text{C}$	—	0.8	V
V_{GD}	Non-Trigger Gate Voltage (1)	$V_{AK} = 12\text{V}$, $R_L = 100\Omega$ $T_c =$ 110°C	0.2	—	V
dv/dt	Critical Rate of Rise Off-State Voltage	Linear slope up to $V_D = V_{DRM} 67\%$, Gate open $T_J = 110^\circ\text{C}$	15	—	V/ μs
I_H	Holding Current	$I_r = 100\text{mA}$, Gate Open $T_c = 25^\circ\text{C}$	—	3	mA
Rth(j-c)	Thermal Impedance	Junction to case	—	1.3	$^\circ\text{C/W}$
Rth(j-a)	Thermal Impedance	Junction to Ambient	—	60	$^\circ\text{C/W}$

Notes :

1. Pulse Width $\leq 1.0\text{ms}$, Duty cycle $\leq 1\%$
2. RGK Current not Included in measurement.

Fig 1. Gate Characteristics

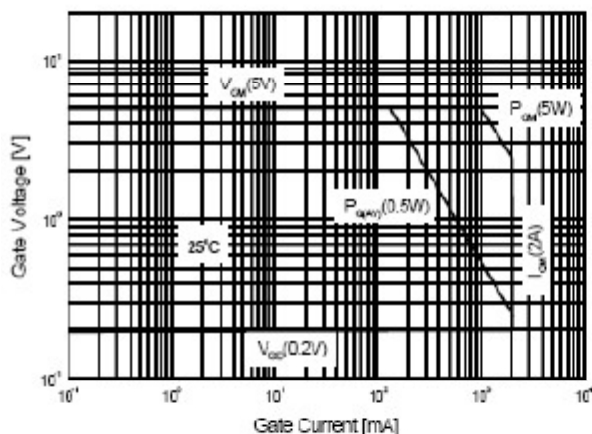


Fig 2. Maximum Case Temperature

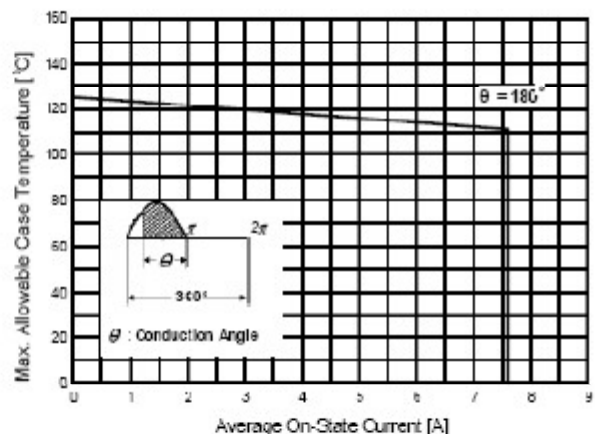


Fig 3. Typical Forward Voltage

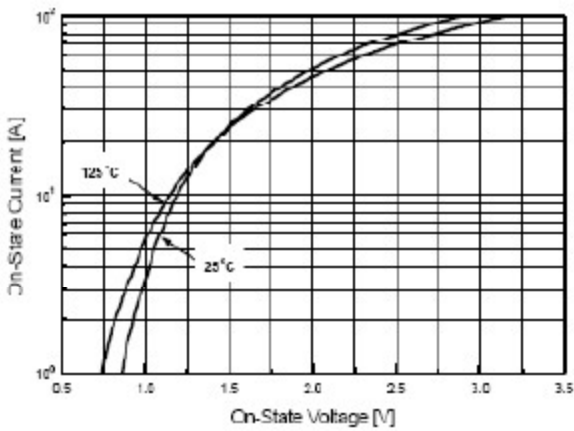


Fig 4. Thermal Response

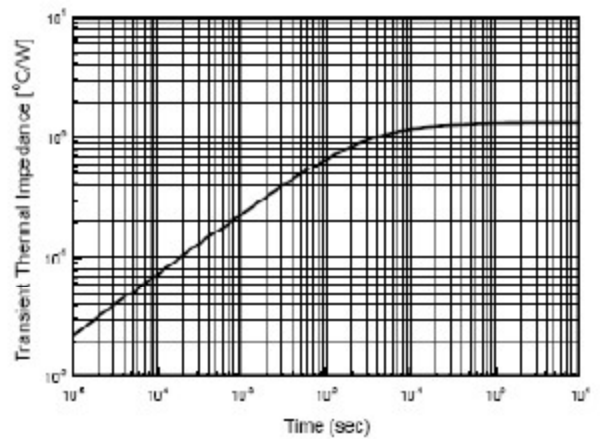


Fig 5. Typical Gate Trigger Voltage vs. Junction Temperature

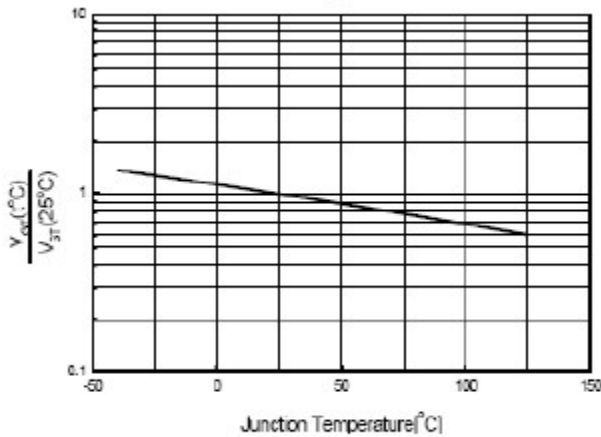


Fig 6. Typical Gate Trigger Current vs. Junction Temperature

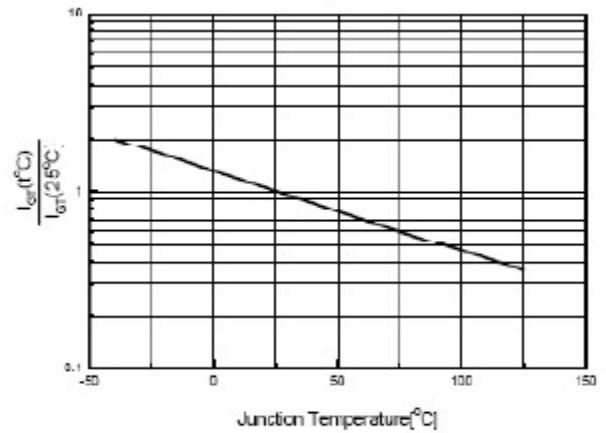


Fig 7. Typical Holding Current

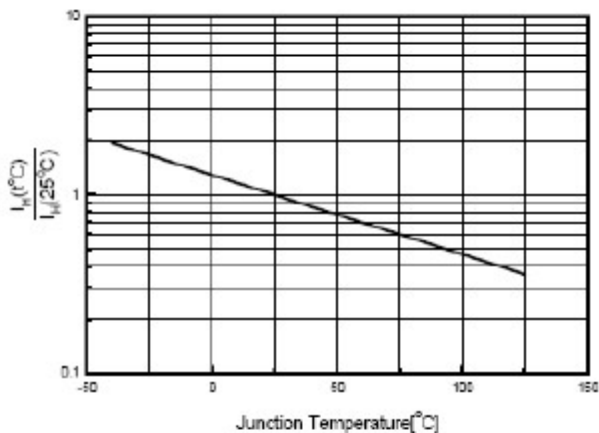
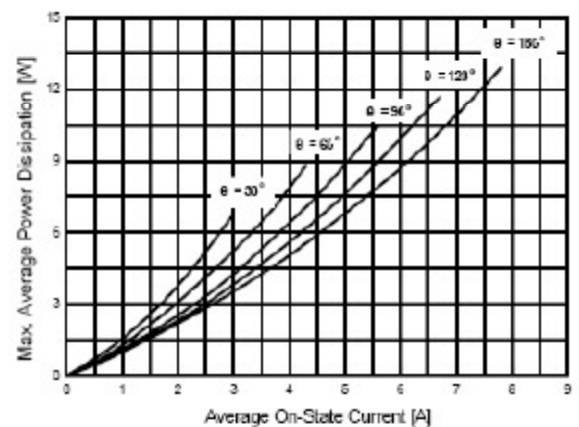
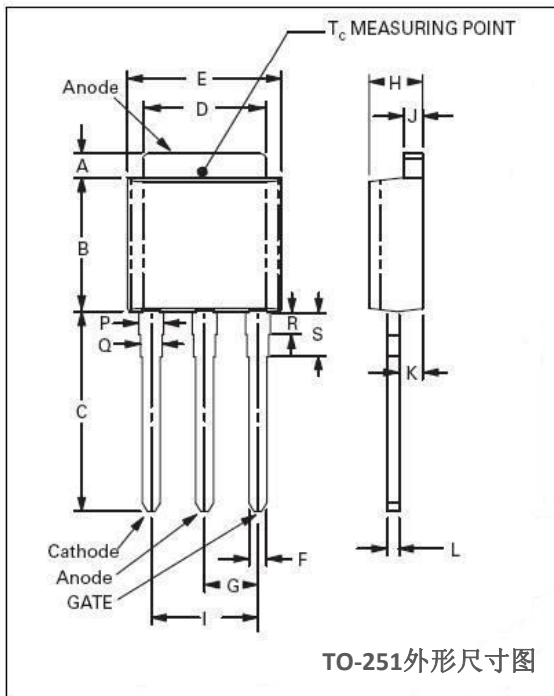


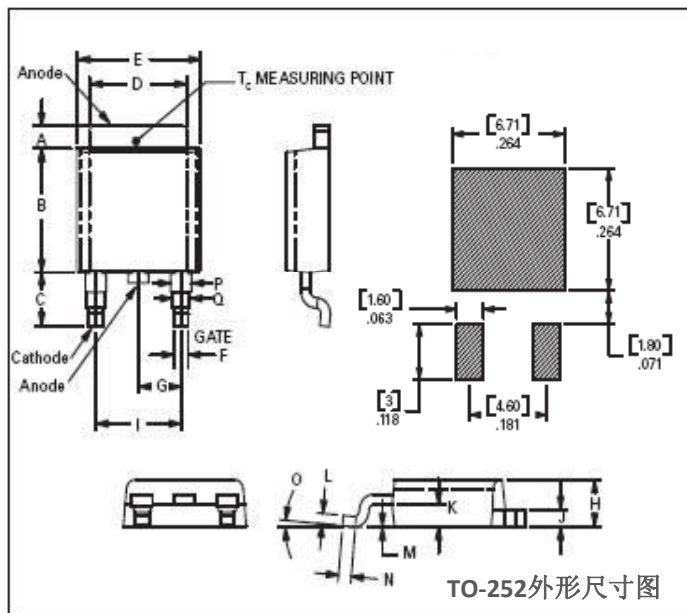
Fig 8. Power Dissipation



PACKAGE MECHANICAL DATA

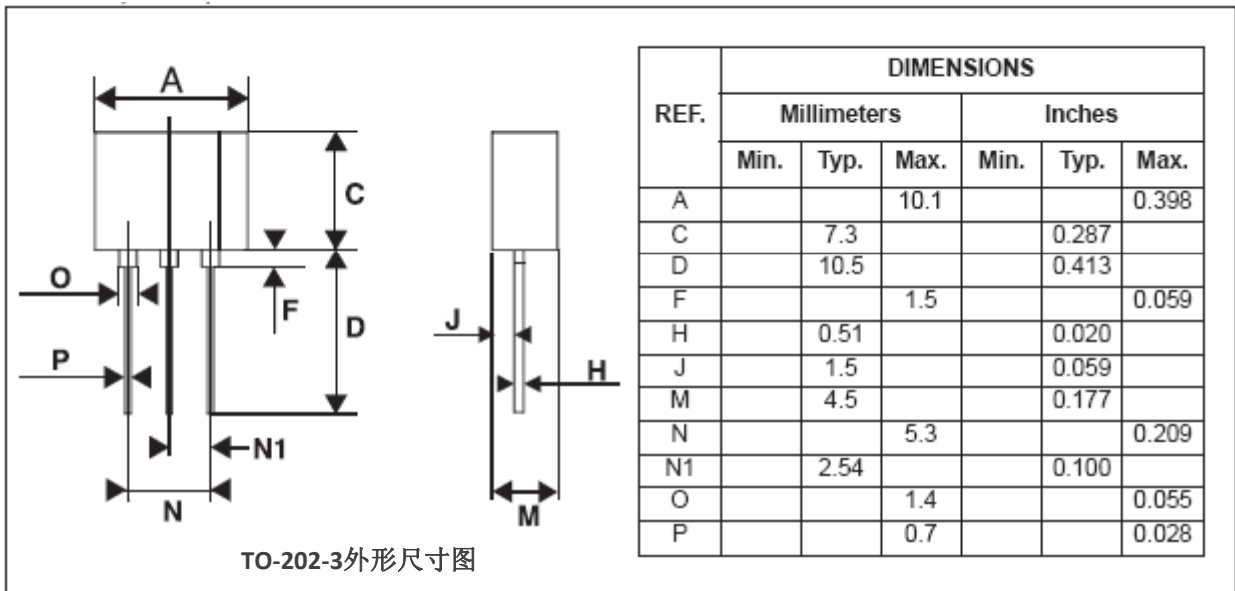
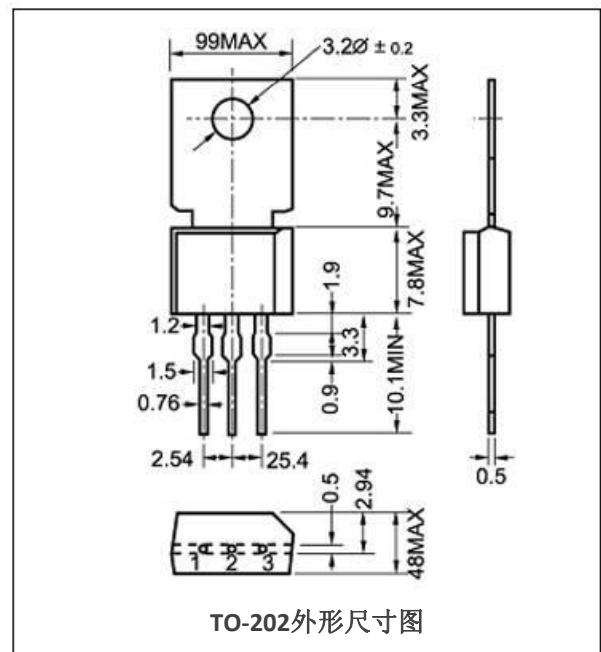
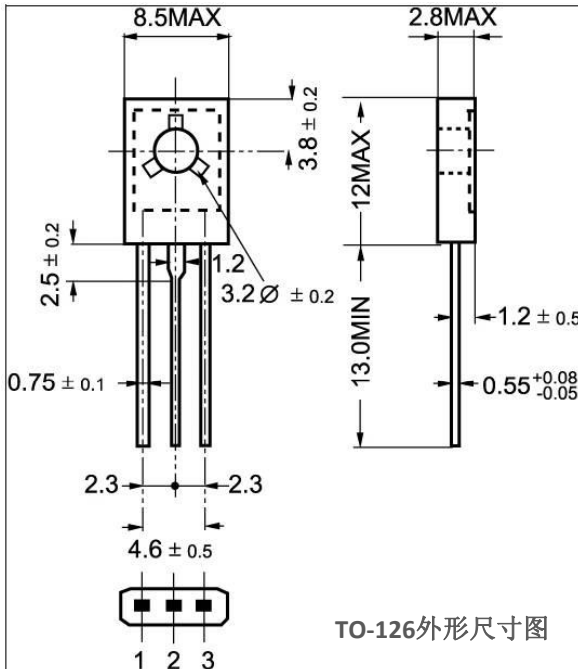


Dimension	Inches			Millimeters		
	Min	Typ	Max	Min	Typ	Max
A	0.040	0.044	0.050	1.02	1.11	1.27
B	0.235	0.242	0.245	5.97	6.15	6.22
C	0.350	0.361	0.375	8.89	9.18	9.53
D	0.205	0.208	0.213	5.21	5.29	5.41
E	0.255	0.262	0.265	6.48	6.66	6.73
F	0.027	0.031	0.033	0.69	0.80	0.84
G	0.087	0.090	0.093	2.21	2.28	2.36
H	0.085	0.092	0.095	2.16	2.34	2.41
I	0.176	0.180	0.184	4.47	4.57	4.67
J	0.018	0.020	0.023	0.46	0.51	0.58
K	0.038	0.040	0.044	0.97	1.01	1.12
L	0.018	0.020	0.023	0.46	0.52	0.58
P	0.042	0.047	0.052	1.06	1.20	1.32
Q	0.034	0.039	0.044	0.86	1.00	1.11
R	0.034	0.039	0.044	0.86	1.00	1.11
S	0.074	0.079	0.084	1.86	2.00	2.11



Dimension	Inches			Millimeters		
	Min	Typ	Max	Min	Typ	Max
A	0.040	0.043	0.050	1.02	1.09	1.27
B	0.235	0.243	0.245	5.97	6.16	6.22
C	0.106	0.108	0.113	2.69	2.74	2.87
D	0.205	0.208	0.213	5.21	5.29	5.41
E	0.255	0.262	0.265	6.48	6.65	6.73
F	0.027	0.031	0.033	0.69	0.80	0.84
G	0.087	0.090	0.093	2.21	2.28	2.36
H	0.085	0.092	0.095	2.16	2.33	2.41
I	0.176	0.179	0.184	4.47	4.55	4.67
J	0.018	0.020	0.023	0.46	0.51	0.58
K	0.038	0.040	0.044	0.97	1.02	1.12
L	0.018	0.020	0.023	0.46	0.51	0.58
M	0.000	0.000	0.004	0.00	0.00	0.10
N	0.021	0.026	0.027	0.53	0.67	0.69
O	0°	0°	5°	0°	0°	5°
P	0.042	0.047	0.052	1.06	1.20	1.32
Q	0.034	0.039	0.044	0.86	1.00	1.11

PACKAGE MECHANICAL DATA



NOTE

1. Semiwill Semiconductor Inc. sales its product either through direct sales or sales agent, thus, for customers, when ordering, please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Semiwill Semiconductor Inc. reserves the right to make changes in this specification sheet and is subject to change without prior notice.