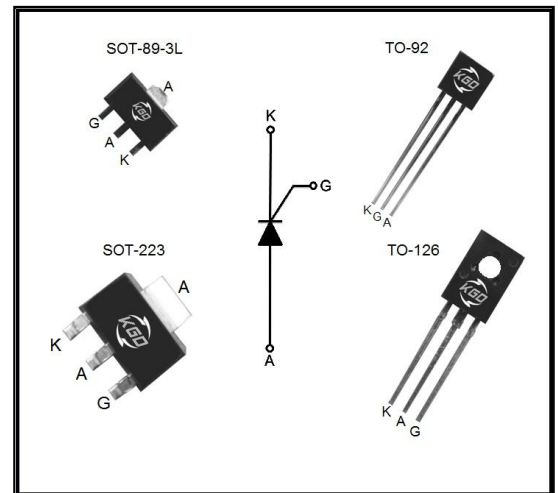


Description:

Highly sensitive triggering levels, the 2P4M Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

Features:

- Blocking voltage to 600V
- On-state RMS current to 2A
- Non-repetitive peak on-state current to 25A

Absolute Maximum Ratings


Symbol	Parameter	Conditions	Value	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^\circ\text{C}$	600	V
V_{RRM}	Repetitive peak Reverse voltage	$T_J=25^\circ\text{C}$	600	V
$I_{T(RMS)}$	RMS on-state current (180° conduction half sine wave)	$T_c=77^\circ\text{C}$	3	A
$I_{T(av)}$	Average on-state current (180° conduction half sine wave)	$T_c=77^\circ\text{C}$	2	A
I_{TSM}	Non-repetitive surge peak On-state current ($T_J=25^\circ\text{C}$)	$t_p=10\text{ms}$	25	A
		$t_p=8.3\text{ms}$	28	
I^2t	I^2t Value for fusing	$t_p=10\text{ms}$	1.7	A^2S
I_{GM}	Peak gate current	$t_p=20\mu\text{s}, T_J=110^\circ\text{C}$	0.5	A
$P_{G(AV)}$	Average gate power dissipation		0.1	W
T_{STG}	Storage temperature		-40 150	$^\circ\text{C}$
T_J	Junction temperature		-40 110	$^\circ\text{C}$

● Electrical Characteristics

Symbol	Conditions	Value			Unit
		MIN	TYP	MAX	
I_{GT}	$V_D=6V, R_L=100\Omega$	/	40	200	μA
V_{GT}		/	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, R_{GK}=1K\Omega, T_J=110^\circ C$	0.2	/	/	V
I_L	$I_G=1mA, R_{GK}=1K\Omega$	/	/	6	mA
I_H	$I_T=50mA, R_{GK}=1K\Omega$	/	/	5	mA
dv/dt	$V_{DM}=67\%V_{DRM}, R_{GK}=1K\Omega, T_J=110^\circ C$	10	/	/	$V/\mu s$

● Electrical Characteristics

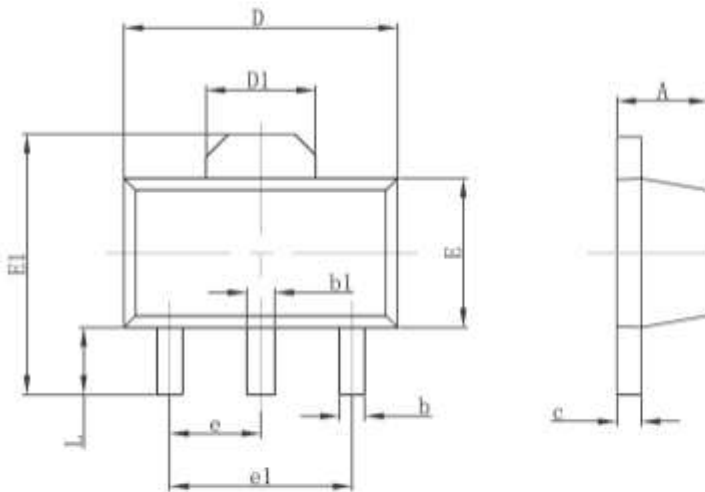
Symbol	Parameter	Numerical	Unit
V_{TM}	$I_T=4A, tp=380\mu s$ $T_J=25^\circ C$	1.7	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$ $T_J=25^\circ C$	5	μA
I_{RRM}	$T_J=125^\circ C$	0.1	mA

● Thermal Characteristics

Symbol	Parameter	Numerical(MAX)	Unit
$R_{th(j-c)}$	Junction to case(AC)	TO-92	60
		TO-126	3.7
		SOT-89-3L/SOT-223	15
T_L	Lead Solder Temperature(<1/16"from case,10 secs max)	260	$^\circ C$

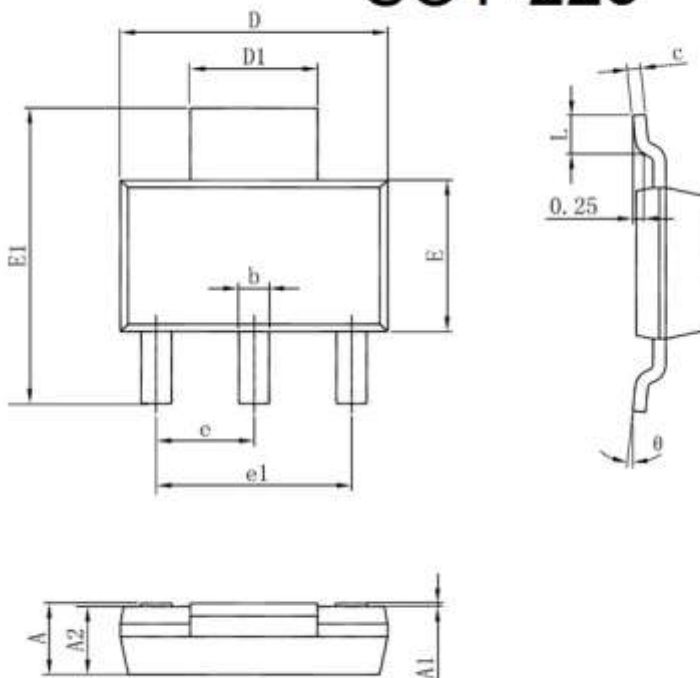
Package Outline Dimensions

SOT-89-3L

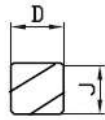
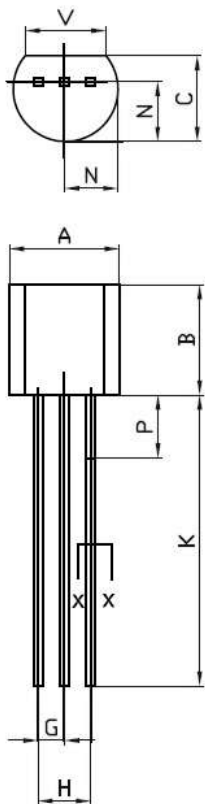


Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.188 TYP.	
L	0.900	1.200	0.035	0.047

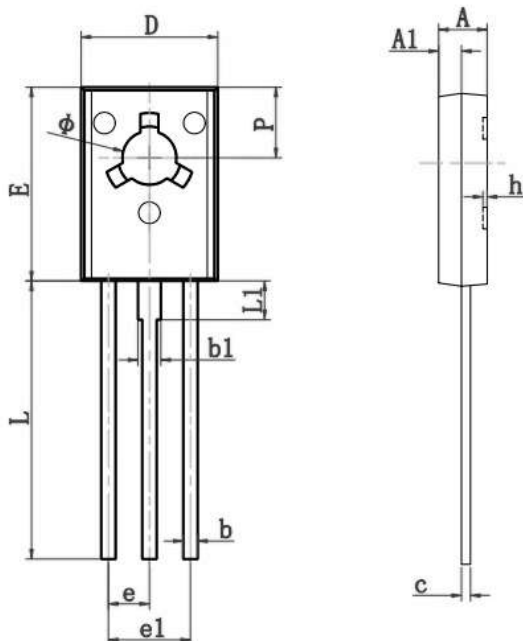
SOT-223



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°

TO-92 (SOT-54)

**SECTION
X-X**

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.45	5.2	0.175	0.205
B	4.32	5.33	0.170	0.210
C	3.18	4.19	0.125	0.165
D	0.407	0.533	0.016	0.021
G	1.15	1.39	0.045	0.055
H	2.42	2.66	0.095	0.105
J	0.39	0.50	0.015	0.020
K	12.70	-	0.500	-
N	2.04	2.66	0.080	0.105
P	-	2.54	-	0.100
V	3.43	-	0.135	-

TO-126


Ref.	Dimensions			
	Millimeters		Millimeters	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Phi	3.000	3.200	0.118	0.126

Fig. 1: Maximum average power dissipation versus average on-state current.

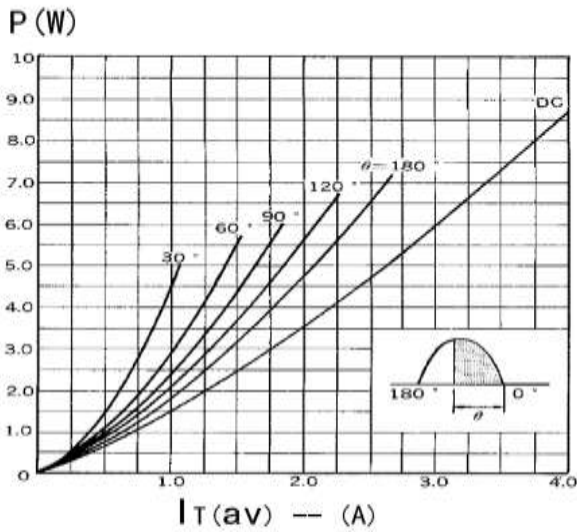


Fig. 2: Average and D.C. on-state current versus lead temperature.

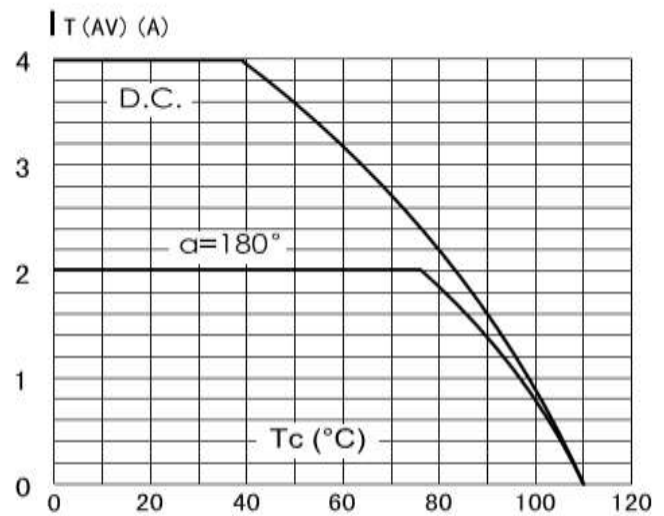


Fig. 3: Surge peak on-state current versus number of cycles.

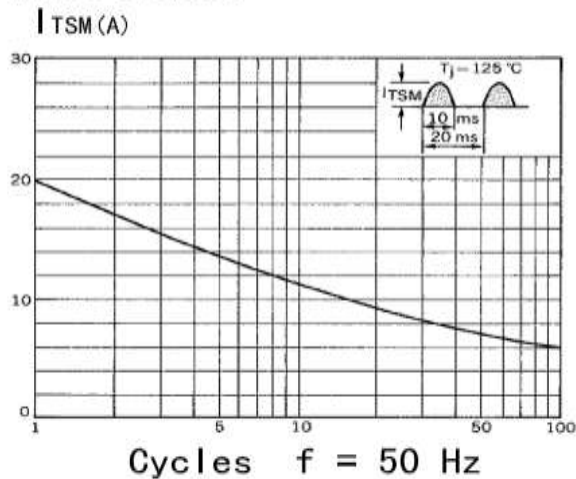


Fig. 4: On-state characteristics (maximum values).

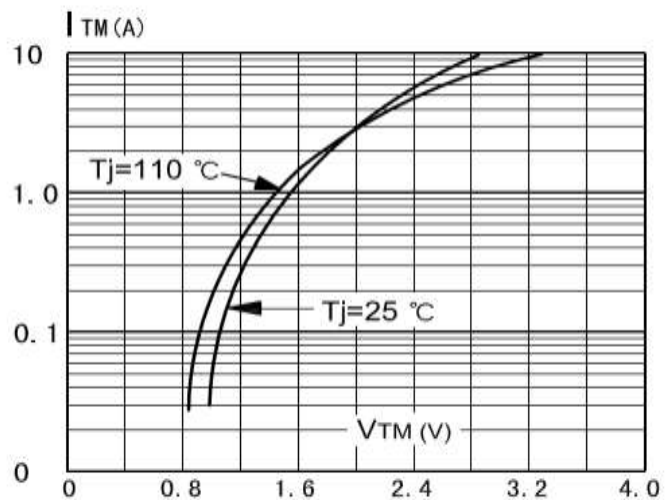


Fig. 5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

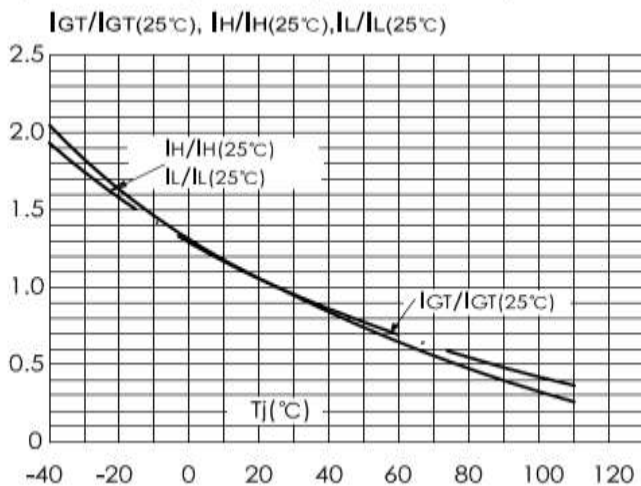


Fig. 6: Relative variation of gate trigger voltage versus junction temperature (typical values).

