

- **Description:**

Logic level sensitive gate triac intended to interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

- **Applications**

This device is suitable for low power AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.

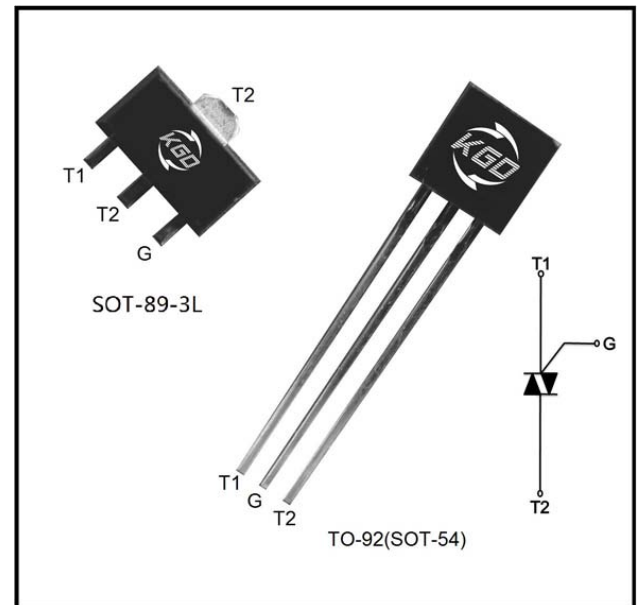
- **Features:**

Blocking voltage to 600/800V

On-state RMS current to 1.0A

Non-repetitive peak on-state current to 12.8A

- **Absolute Maximum Ratings**



Symbol	Parameter	Conditions	Value	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^{\circ}C$	600 & 800	V
V_{RRM}	Repetitive peak Reverse voltage	$T_J=25^{\circ}C$	600 & 800	V
$I_{T(RMS)}$	RMS on-state current (full sine wave)	$T_C=110^{\circ}C$	1.0	A
I_{TSM}	Non-repetitive surge peak On-state current (One full cycle, sine wave, $T_C=110^{\circ}C$)	$t_p=10ms$	12	A
		$t_p=8.3ms$	12.8	
I^2t	I^2t Value for fusing	$t_p=10ms$	0.72	A^2S
I_{GM}	Peak gate current	$t_p \leq 2\mu s, T_J=80^{\circ}C$	1	A
$P_{G(AV)}$	Average gate power dissipation	$t_p \leq 10ms, T_J=80^{\circ}C$	0.5	W
P_{GM}	Peak gate power dissipation		50	W
T_{STG}	Storage temperature		-40 150	$^{\circ}C$
T_J	Junction temperature		-40 125	$^{\circ}C$

● Electrical Characteristics

Symbol	Conditions	Quadrant	Value		Unit
			MIN	MAX	
I_{GT}	$V_D=12V, R_L=33\Omega$	I - II - III	/	5	mA
		IV	/	10	
V_{GT}		ALL	/	1.3	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=125^\circ C$	ALL	0.2	/	V
I_H	$I_T=200mA$		/	5	mA
dv/dt	$V_{DM}=67\%V_{DRM}$, gate open, $T_J=125^\circ C$		5	/	V/ μs
$(dv/dt)_c$	$(di/dt)_c=0.3A/ms$, $T_J=125^\circ C$		1	/	V/ μs

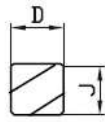
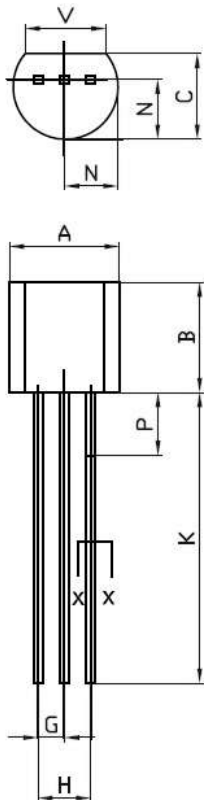
● Electrical Characteristics

Symbol	Parameter	Numerical	Unit
V_{TM}	$I_T=2A, tp=380\mu s$ $T_J=25^\circ C$	1.5	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$ $T_J=25^\circ C$	10	μA
I_{RRM}	$T_J=125^\circ C$	500	μA

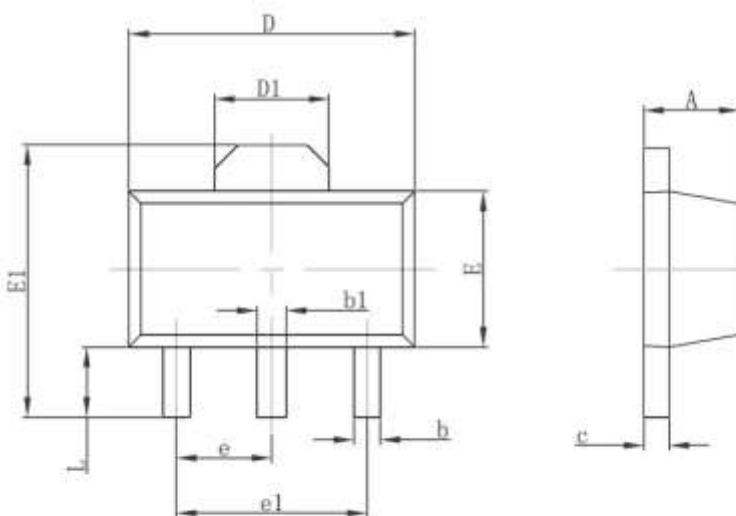
● Thermal Characteristics

Symbol	Parameter	Numerical(MAX)	Unit
$R_{th(j-c)}$	Junction to case(AC)	60	$^\circ C/W$

● Package Outline Dimensions

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	-

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