

- **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.

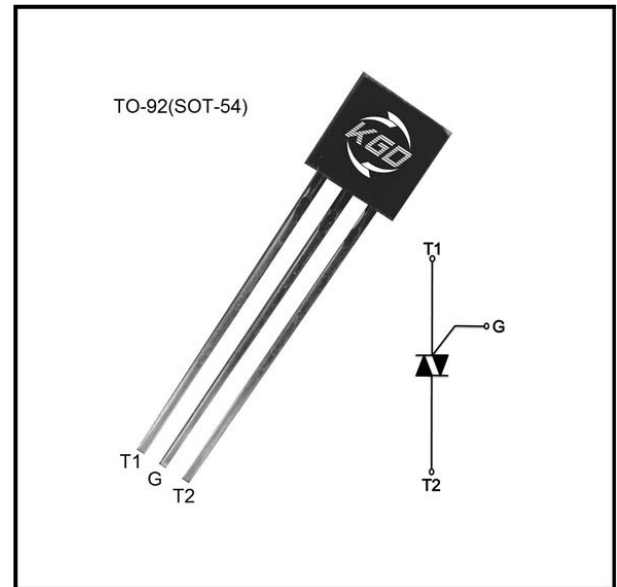
- **Features:**

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		0.5	W
$P_{GM}$	Peak gate power dissipation	$t_p \leq 10ms, T_J=80^{\circ}C$	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/ $\mu s$
$(dv/dt)_c$	$(di/dt)_c=0.3A/ms$ , $T_J=125^\circ C$		1	/	V/ $\mu s$

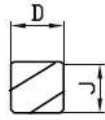
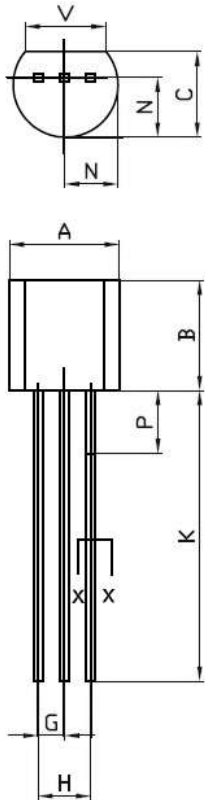
**● Electrical Characteristics**

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	$\mu A$
$I_{RRM}$	$T_J=125^\circ C$	500	$\mu A$

**● Thermal Characteristics**

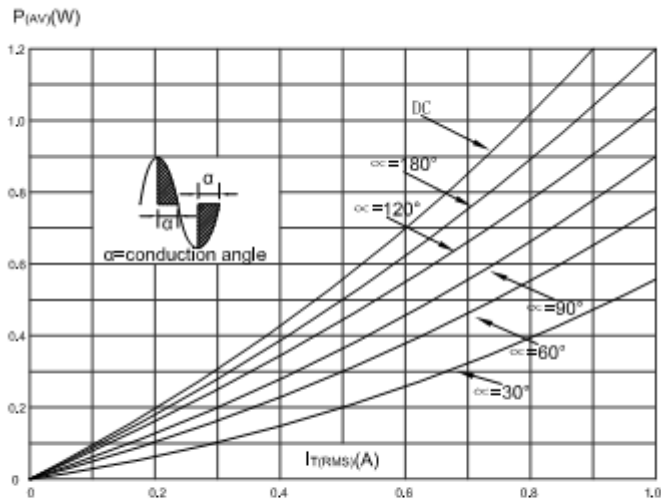
Symbol	Parameter	Numerical(MAX)	Unit
$R_{th(j-c)}$	Junction to case(AC)	60	$^\circ C/W$

## ● Package Outline Dimensions

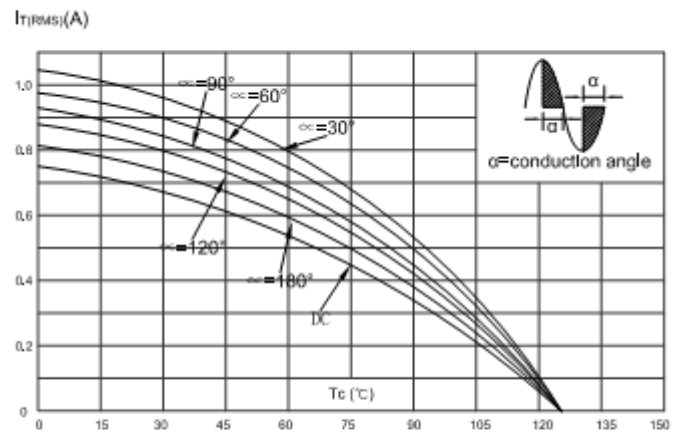
**TO-92 (SOT-54)**

**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	-

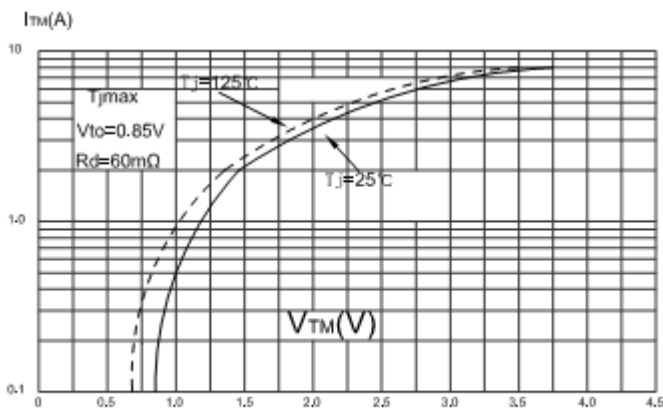
**FIG.1: Maximum power dissipation versus average on-state current.**



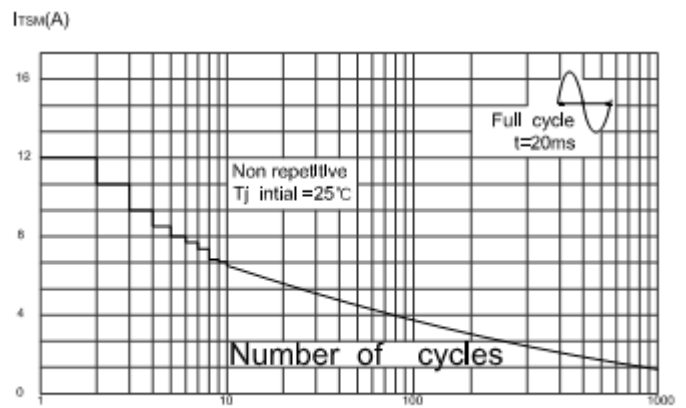
**FIG.2: RMS on-state current versus case temperature.**



**FIG.3: On-state characteristics (maximum values)**



**FIG.4: Surge peak on-state current versus number of cycles.**



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

