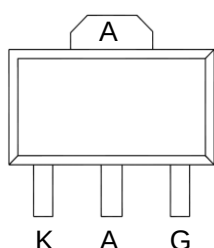


Features

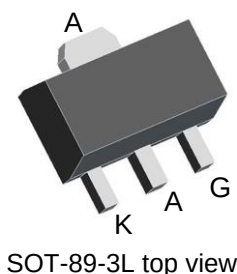
- Operating and storage junction temperature range
 $T_J, T_{stg} : -55^{\circ}\text{C to } +150^{\circ}\text{C}$

Features

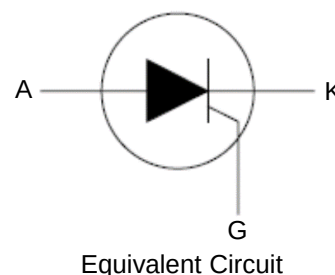
- Electric blanket, Electronic jar, Various temperature control
- Electric sewing machine, Speed control of miniature type motor.
- Light display equipment, Lamp dimmer such as a display for entertainment.
- Automatic gas lighter, Battery charger.
- Solid state static switches etc



Marking and pin assignment



SOT-89-3L top view



Equivalent Circuit



Pb-Free



RoHS



Halogen-Free

Halogen-Free

Maximum Ratings($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current	2	A
V_{DRM}	Repetitive peak off-state voltage	600	V
T_J	Junction Temperature	$-40 \sim +125$	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	$-40 \sim +150$	$^{\circ}\text{C}$

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

Symbol	Parameter	Test conditions	Min.	Max.	Unit
V_{TM}	On state voltage	$I_{TM}=2\text{A}$	-	1.7	V
V_{GT}	Gate trigger voltage	$V_{AK}=12\text{V}$	-	0.8	V
V_{DRM}	Repetitive peak off-state voltage	$I_{DRM}=10\mu\text{A}$	600	-	V
V_{RRM}					
I_{RRM}	Peak forward or reverse blocking Current	V_{DRM} or V_{RRM}	10	-	μA
I_{DRM}					
I_H	Holding current	$I_T=50\text{mA}$	-	5	mA
I_{GT}	Gate trigger current	$V_{AK}=12\text{V}$	10	200	μA

Typical Operating Characteristics

Fig. 1 $I_{TM}-V_{TM}$ CHARACTERISTICS

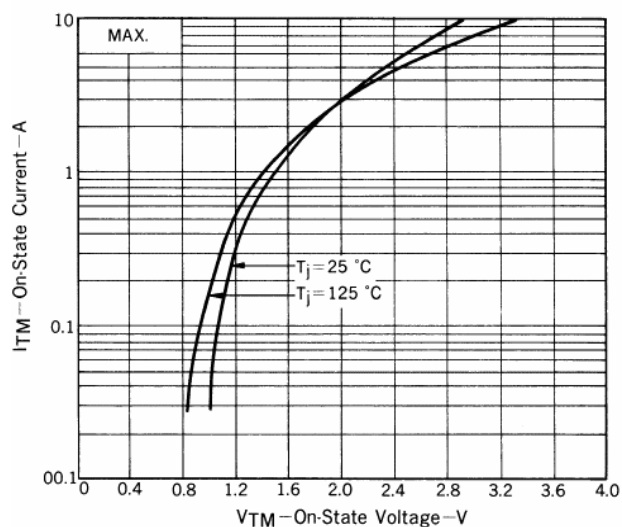


Fig. 2 $P_T(AV)-I_T(AV)$ CHARACTERISTICS

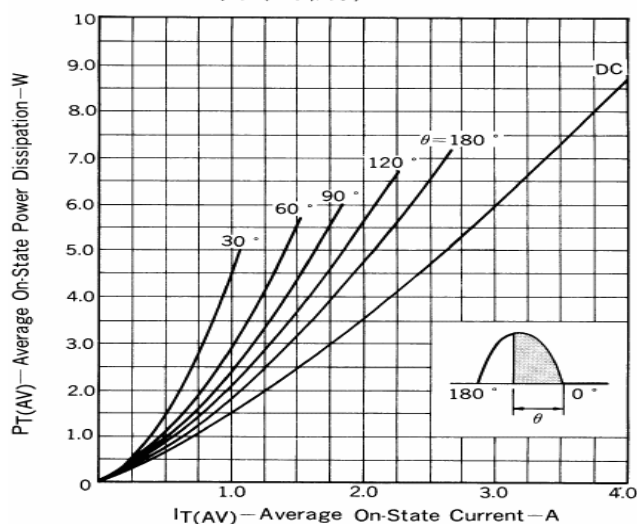


Fig. 3 $I_T(AV)-T_C$ RATINGS

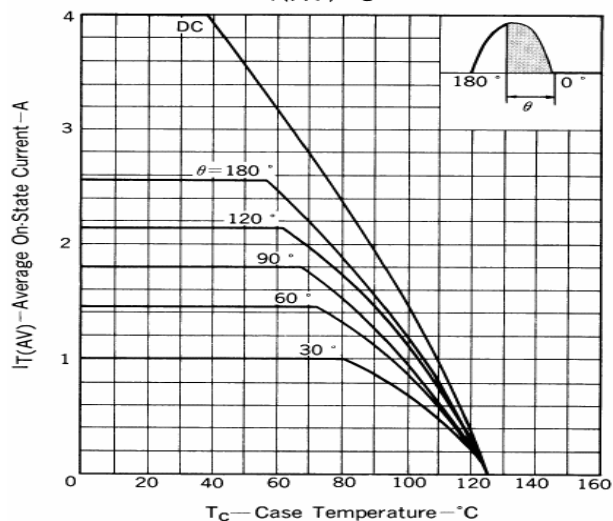


Fig. 4 $T_a-I_T(AV)$ RATINGS

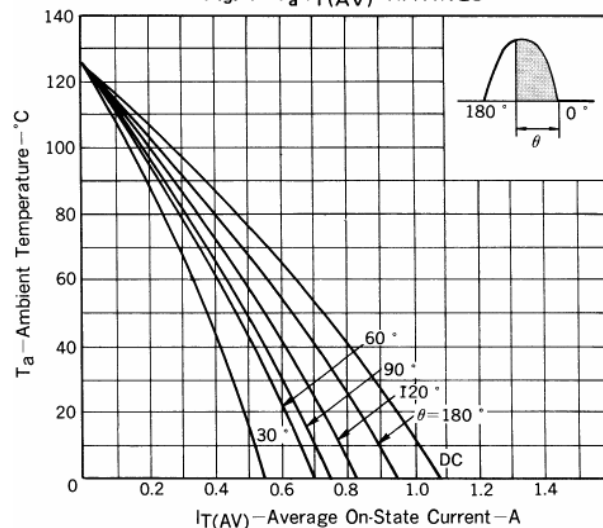


Fig. 5 $I_{GT}-T_a$ TYPICAL DISTRIBUTION

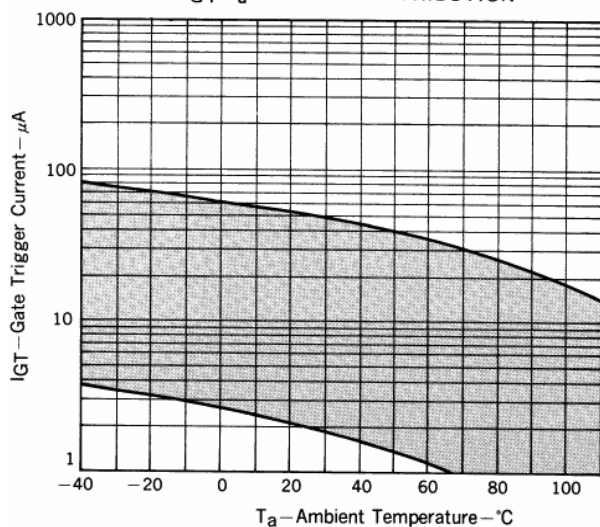


Fig. 6 $V_{GT}-T_a$ TYPICAL DISTRIBUTION

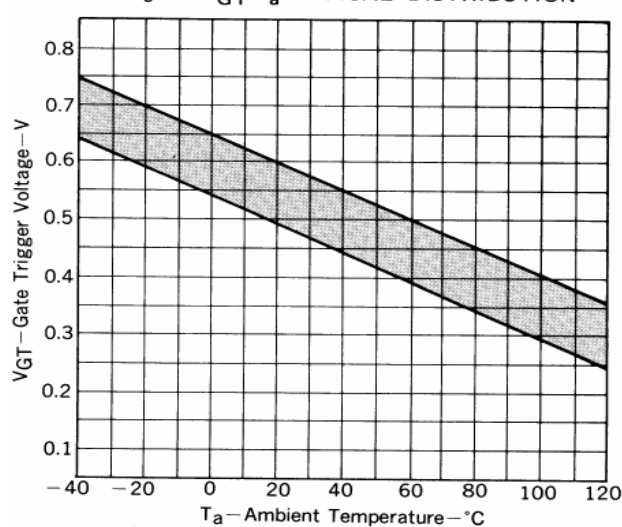


Fig. 7 $I_{GT}-\tau_G$ TYPICAL DISTRIBUTION

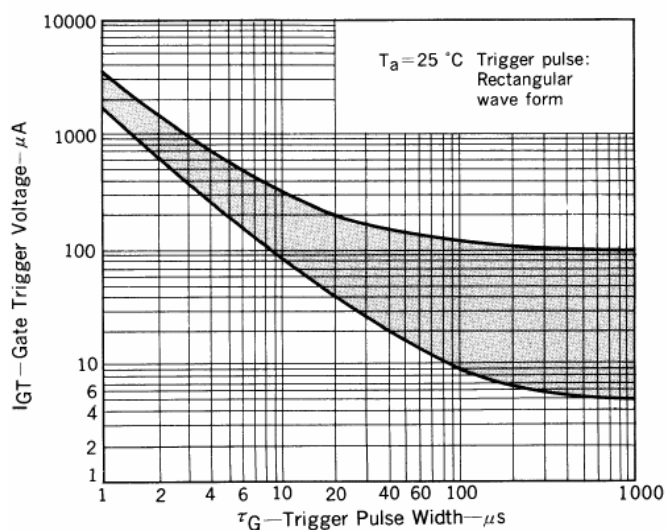


Fig. 8 $V_{GT}-\tau_G$ TYPICAL DISTRIBUTION

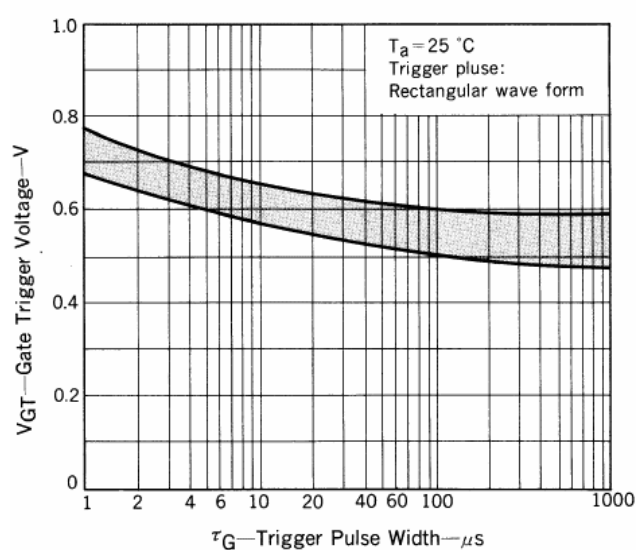


Fig. 9 I_H-T_a TYPICAL DISTRIBUTION

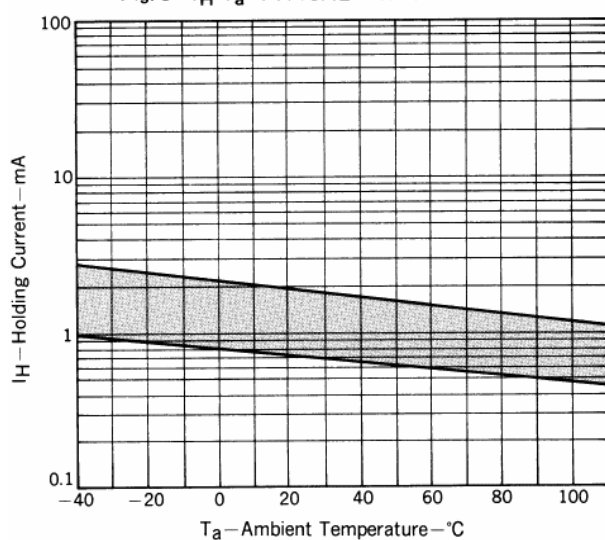


Fig. 10 I_{TSM} RATINGS

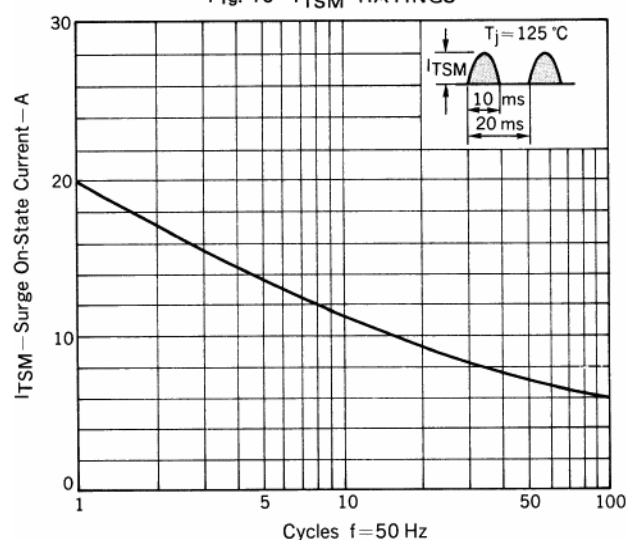
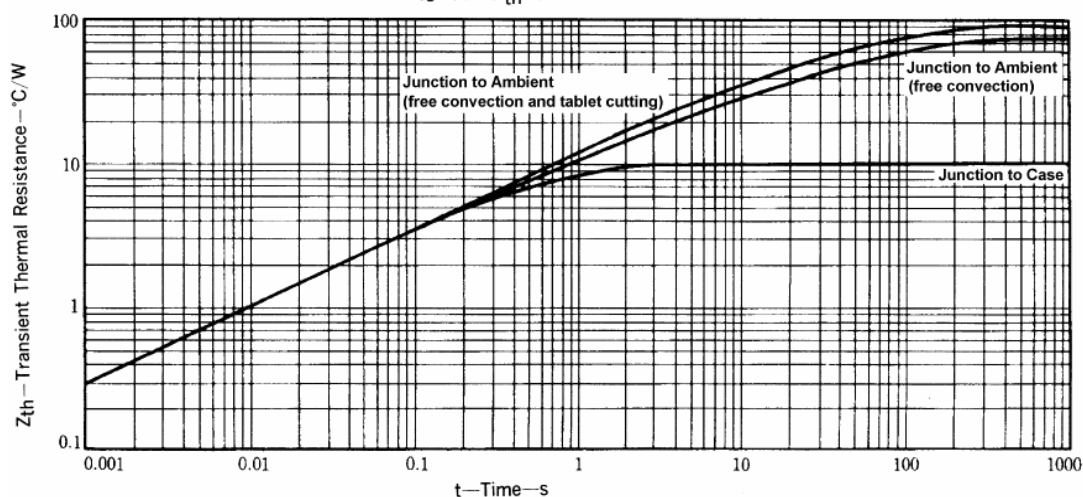
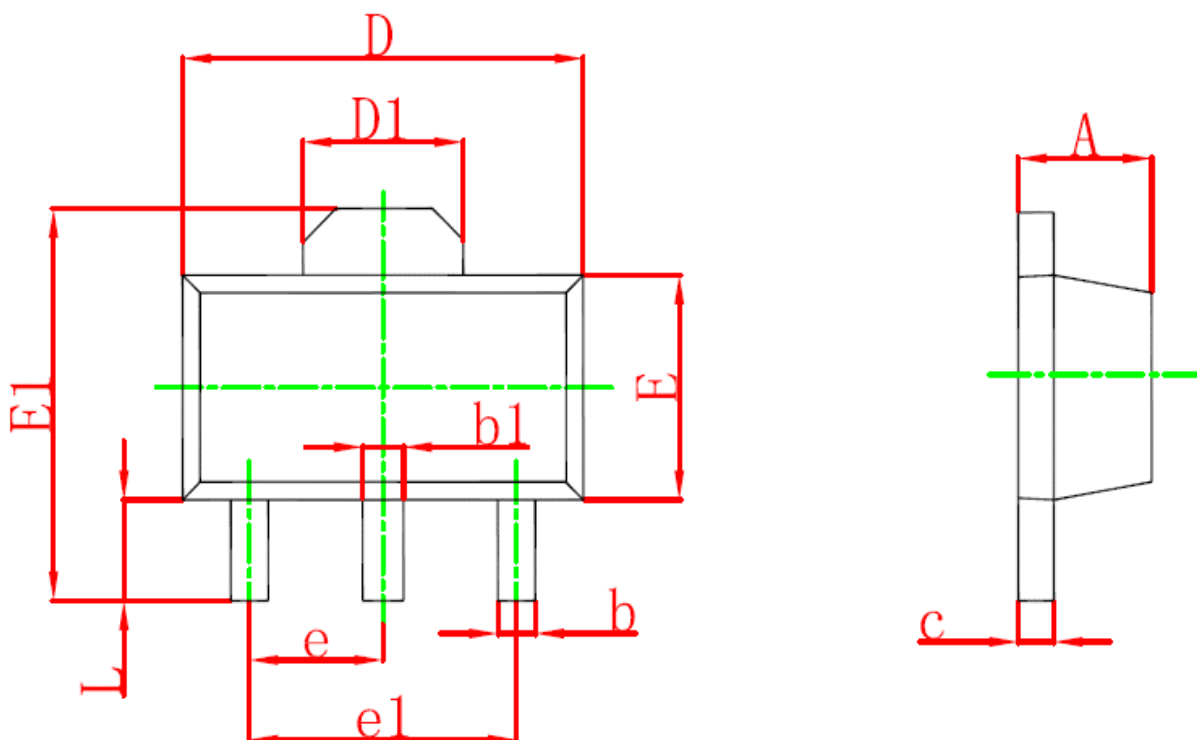


Fig. 11 Z_{th} CHARACTERISTICS



SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in 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		0.118 TYP	
L	0.900	1.200	0.035	0.047