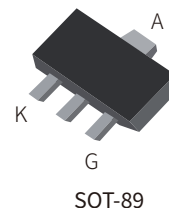


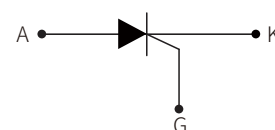
FEATURES

- | High voltage capability
- | Planar passivated for voltage ruggedness and reliability
- | Sensitive gate



APPLICATIONS

- | Ignition circuits
- | Lighting ballasts
- | Protection circuits
- | Switched mode power supplies



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage ($T_j=25^{\circ}\text{C}$)	$V_{\text{DRM}} / V_{\text{RRM}}$	600	V
RMS on-state current ($T_c \leq 60^{\circ}\text{C}$)	$I_{\text{T(RMS)}}$	0.8	A
Non repetitive surge peak on-state current ($t_p=20\text{ms}$)	I_{TSM}	8	
I_2t value for fusing ($t_p=10\text{ms}$)	I_2t	0.32	A2S
Critical rate of rise of on-state current	di/dt	50	A/ μs
Peak gate current ($t_p=20\mu\text{s}$, $T_j=110^{\circ}\text{C}$)	I_{GM}	0.2	A
Average gate power dissipation ($T_j=125^{\circ}\text{C}$)	$P_{\text{G(AV)}}$	0.1	W
Average gate power dissipation ($T_j=110^{\circ}\text{C}$)	P_{GM}	0.5	W
Storage junction temperature range	T_{STG}	-40~+150	$^{\circ}\text{C}$
Operating junction temperature range	T_j	-40~+125	

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	-	30	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, T_J=110^{\circ}\text{C}$	0.2	-	-	
I_L	$I_G=1.2I_{GT}$	-	-	5	mA
I_H	$I_T=0.05\text{A}$	-	-	3	
dV_D/dt	$V_D=67\%V_{DRM}, T_J=125^{\circ}\text{C}$	10	-	-	$\text{V}/\mu\text{s}$

STATIC CHARACTERISTICS

Symbol	Parameter	Value	Unit
V_{TM}	$I_T=1\text{A}, t_p=380\mu\text{s}, T_J=25^{\circ}\text{C}$	≤ 1.5	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}, T_J=25^{\circ}\text{C}$	≤ 5	μA
I_{RRM}	$V_D=V_{DRM}, V_R=V_{RRM}, T_J=110^{\circ}\text{C}$	≤ 100	

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	75	$^{\circ}\text{C}/\text{W}$

PARAMETER CHARACTERISTIC CURVE

FIG.1 Maximum power dissipation versus RMS on-state current

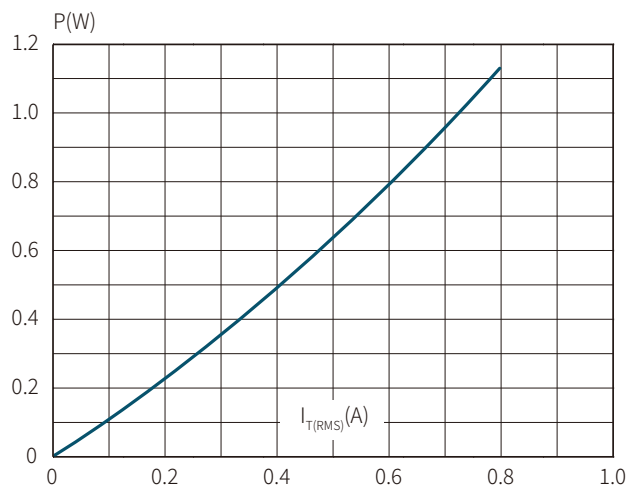


FIG.2 RMS on-state current versus case temperature

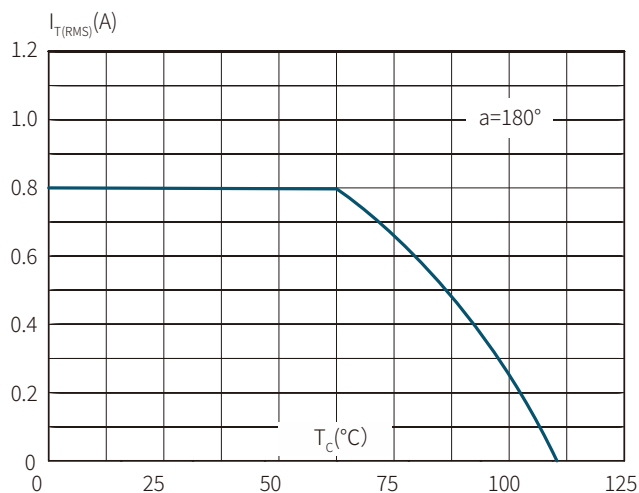


FIG.3 Surge peak on-state current versus number of cycles

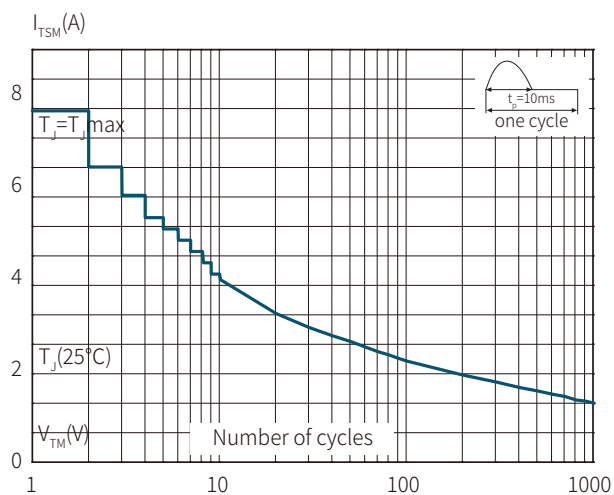


FIG.4 On-state characteristics (maximum values)

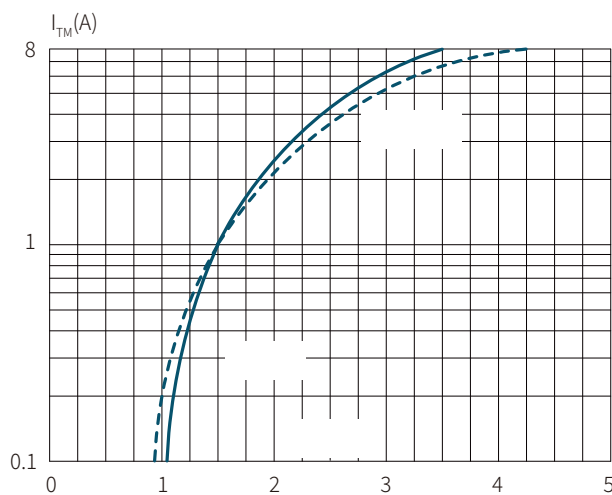


Fig.5 non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

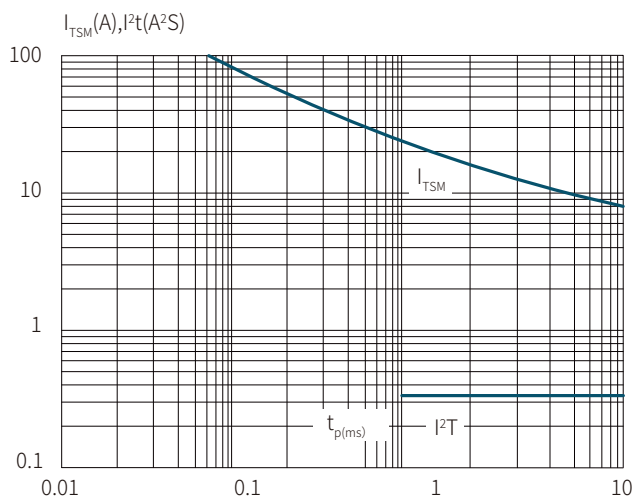


FIG.6 Relative variations of gate trigger current versus junction temperature

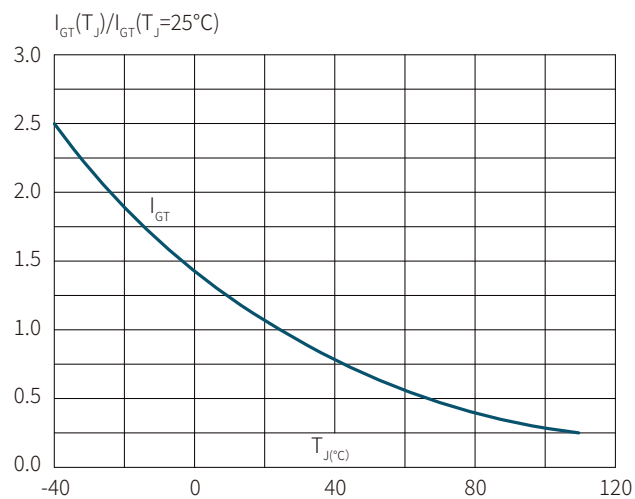


FIG.7 Relative variations of holding current versus junction temperature

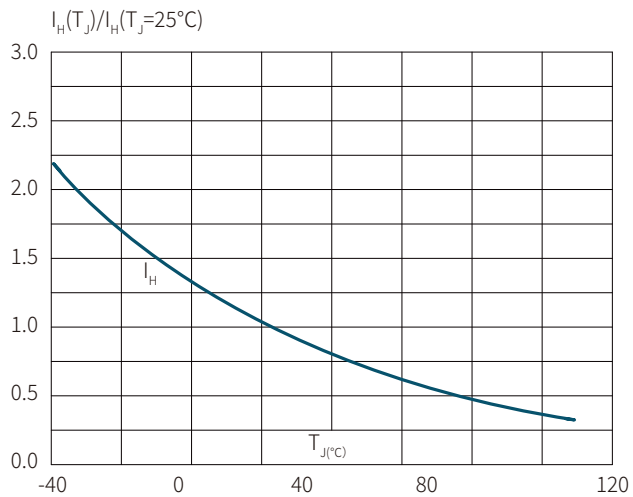
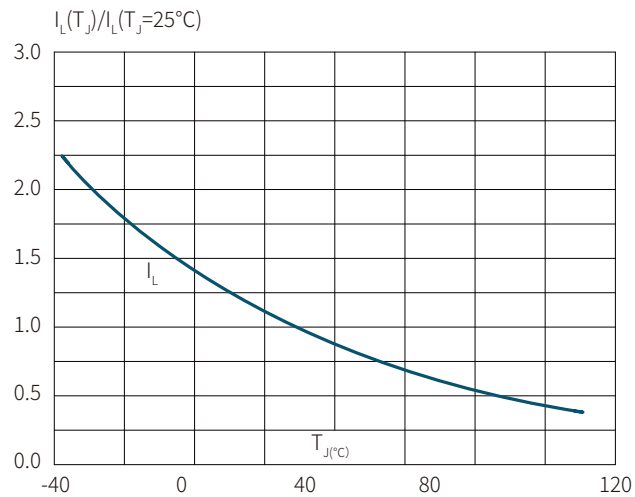
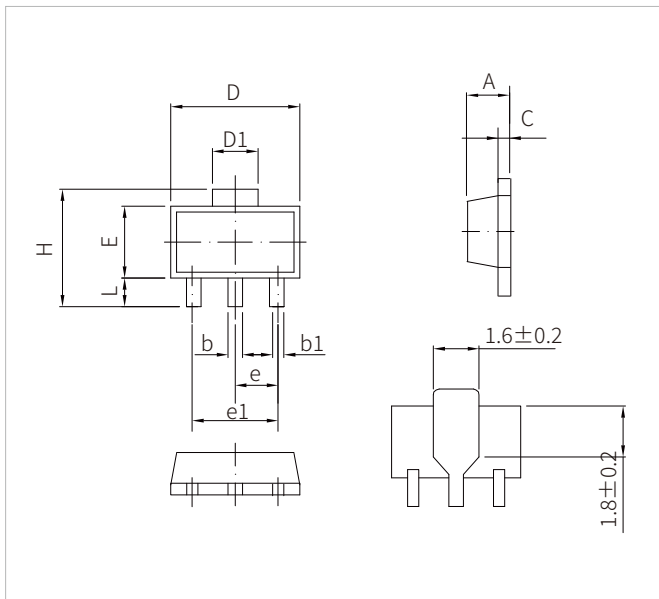


FIG.8 Relative variations of latching current versus junction temperature



SOT-89 PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.70	0.051	0.067
b	0.40	0.60	0.016	0.024
b1	0.25	0.55	0.010	0.022
C	0.30	0.50	0.012	0.020
D	4.30	4.70	0.169	0.185
D1	1.40	1.80	0.055	0.071
E	2.30	2.70	0.091	0.106
e	1.5TYP		0.059TYP	
e1	2.90	3.10	0.114	0.122
H	3.90	4.40	0.154	0.173
L	0.80	1.20	0.031	0.047

ORDERING INFORMATION

Part Number	Size	QTY/Reel	Reel Size
BT169M	SOT-89	1000CS	7"

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