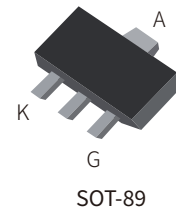


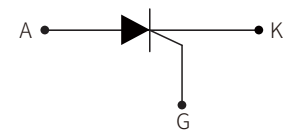
FEATURES

- | 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 ² t value for fusing ($t_p=10\text{ms}$)	I ² t	0.32	A ² S
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	°C
Operating junction temperature range	T_j	-40~+125	

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I _{GT}	V _D =12V, R _L =33Ω	-	30	200	uA
V _{GT}		-	0.6	0.8	V
V _{GD}	V _D =V _{DRM} , T _J =110°C	0.2	-	-	
I _L	I _G =1.2I _{GT}	-	-	5	mA
I _H	I _T =0.05A	-	-	3	
dV _D /dt	V _D =67%V _{DRM} , T _J =125°C	10	-	-	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter	Value	Unit
V _{TM}	I _T =1A, t _p =380μs, T _J =25°C	≤1.5	V
I _{DRM}	V _D =V _{DRM} , V _R =V _{RRM} , T _J =25°C	≤5	uA
I _{RRM}	V _D =V _{DRM} , V _R =V _{RRM} , T _J =110°C	≤100	

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case(AC)	75	°C/W

PARAMETER CHARACTERISTIC CURVE

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

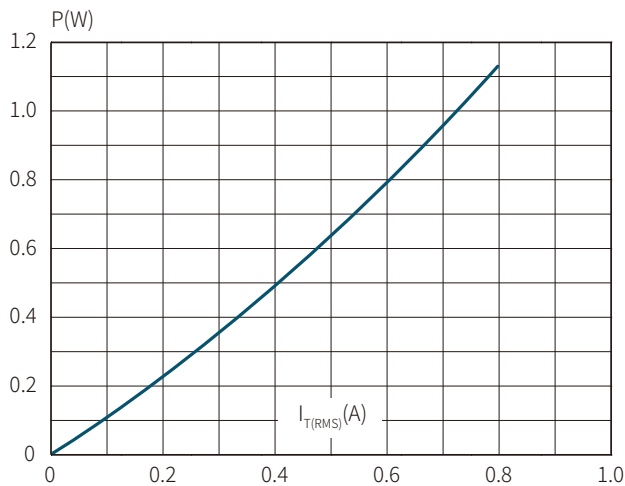


FIG.2 RMS on-state current versus case temperature

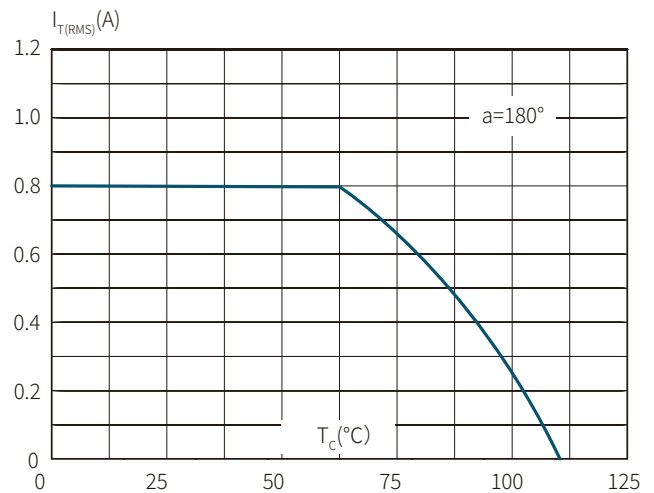


FIG.3 Surge peak on-state current versus number of cycles

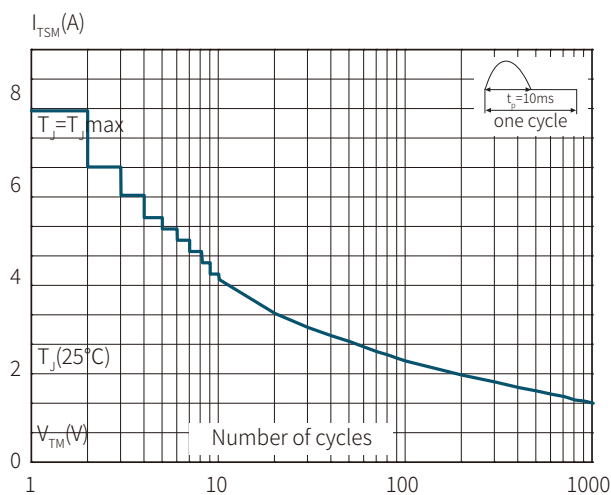


FIG.4 On-state characteristics (maximum values)

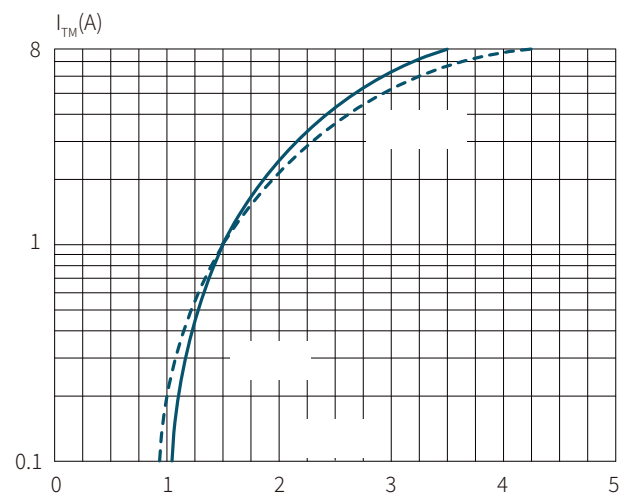


Fig.5 non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

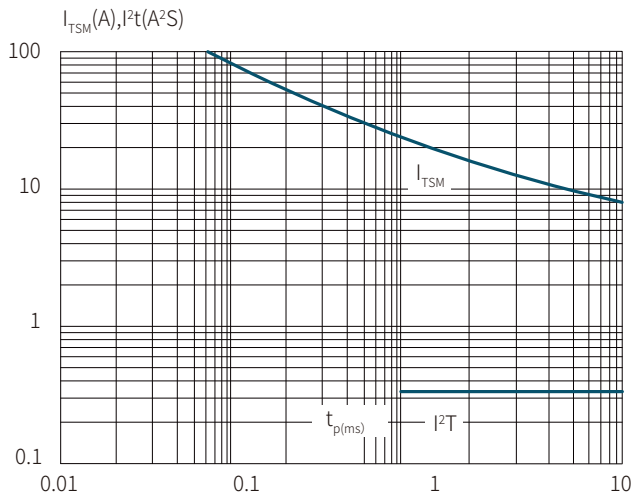


FIG.6 Relative variations of gate trigger current versus junction temperature

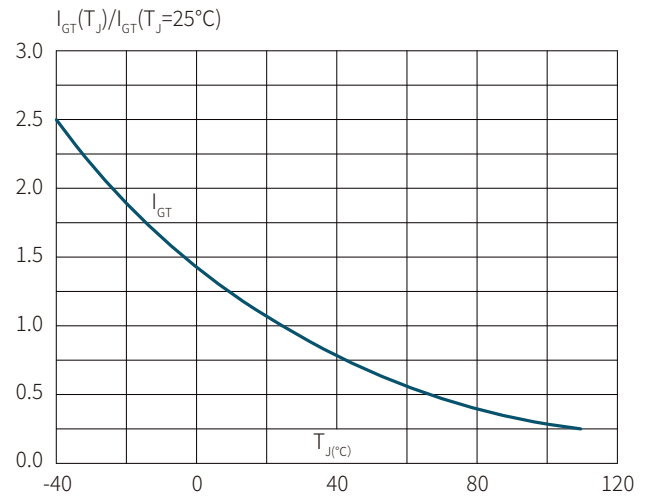


FIG.7 Relative variations of holding current versus junction temperature

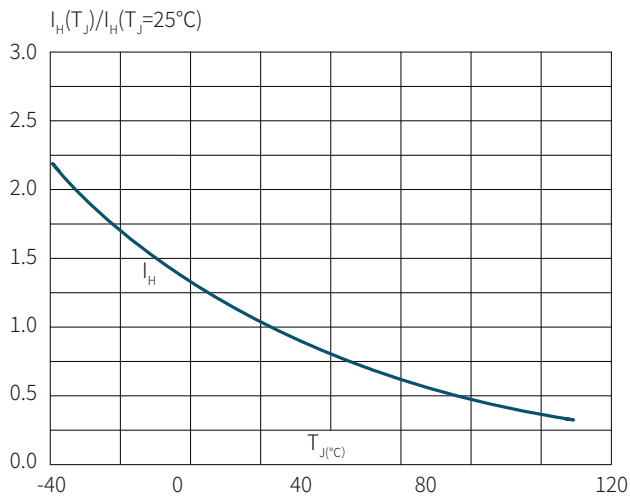
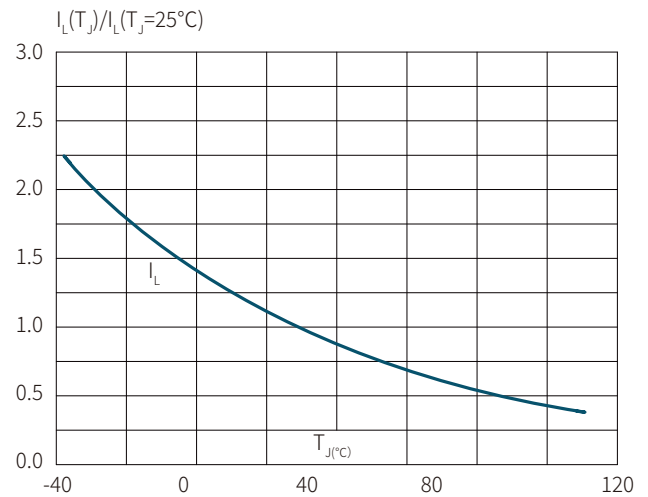
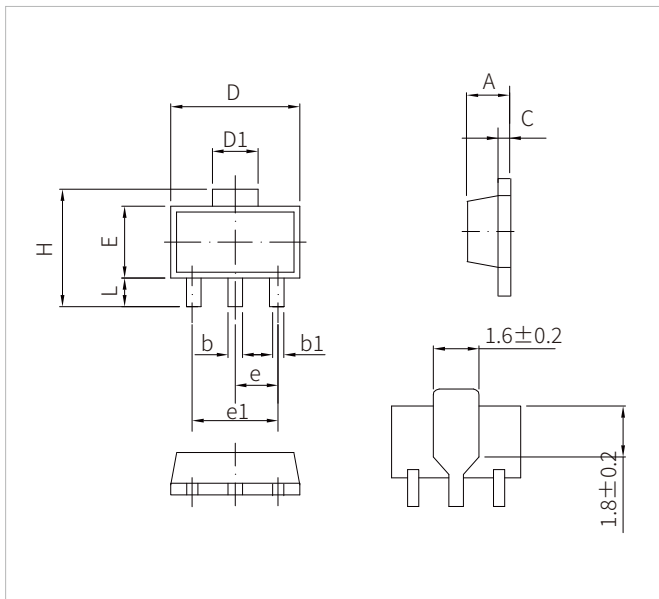


FIG.8 Relative variations of latching current versus junction temperature



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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