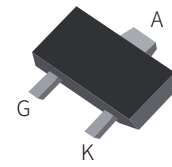


FEATURES

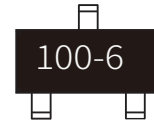
- High voltage capability
- Planar passivated for voltage ruggedness and reliability
- Sensitive gate

APPLICATIONS

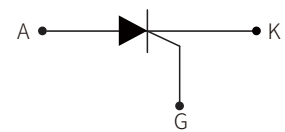
- Ignition circuits
- Lighting ballasts
- Protection circuits
- Switched mode power supplies



SOT-23



Marking



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	$V_{\text{DRM}} / V_{\text{RRM}}$	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 ($t_p=10\text{ms}$)	I_{TSM}	8	
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	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 ($T_j=110^\circ\text{C}$)	$P_{\text{G(AV)}}$	0.1	W
Peak gate power ($t_p=20\mu\text{s}$, $T_j=110^\circ\text{C}$)	P_{GM}	0.5	
Storage junction temperature range	T_{STG}	-40~+150	$^\circ\text{C}$
Operating junction temperature range	T_j	-40~+110	

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/dt	V _D =2/3V _{DRM} , T _J =110°C, R _{GK} =1KΩ	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	

PARAMETER CHARACTERISTIC CURVE

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

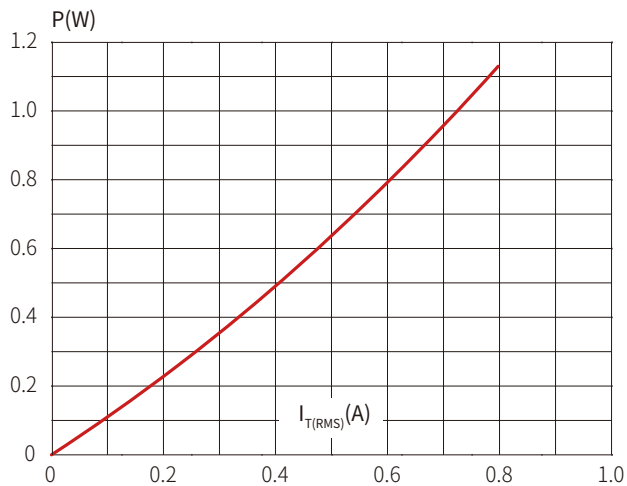


FIG.2 RMS on-state current versus case temperature

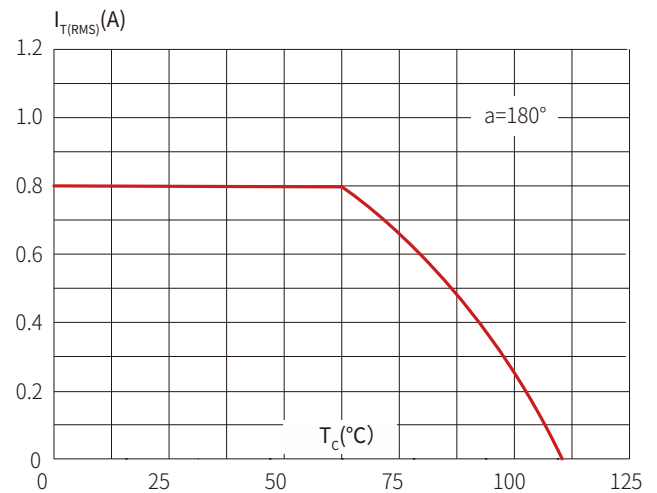


FIG.3 Surge peak on-state current versus number of cycles

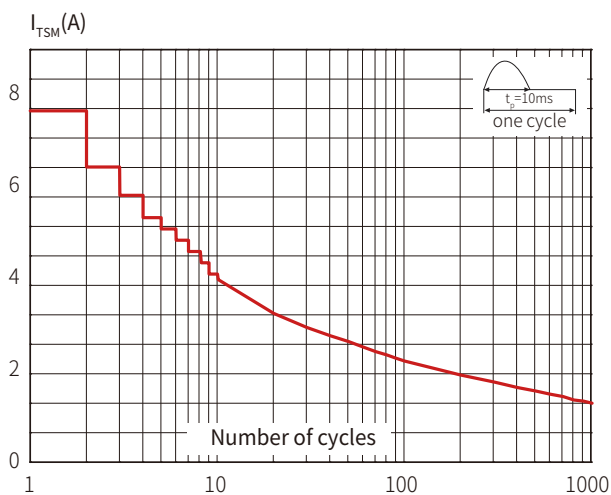


FIG.4 On-state characteristics (maximum values)

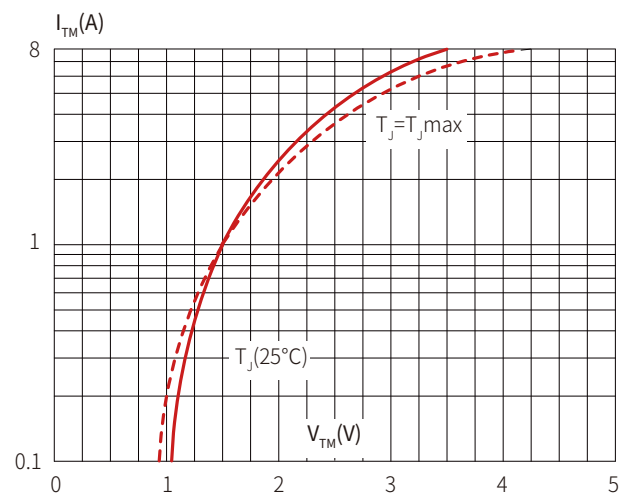


Fig.5 non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

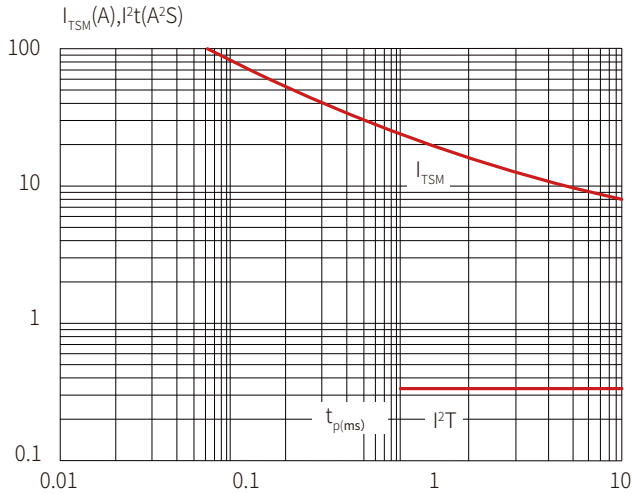


FIG.6 Relative variations of gate trigger current versus junction temperature

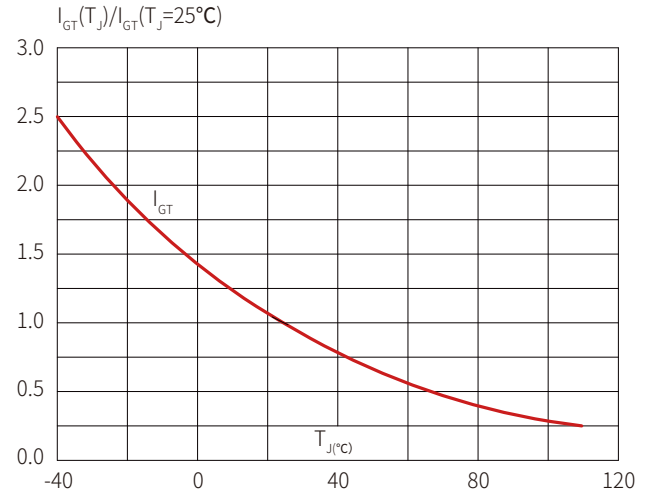


FIG.7 Relative variations of holding current versus junction temperature

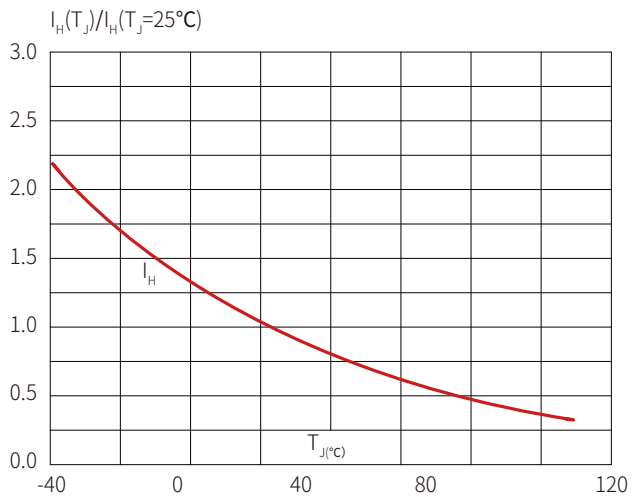
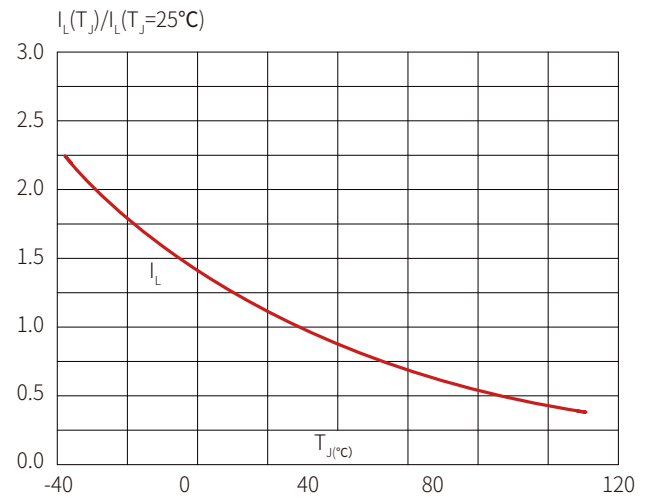
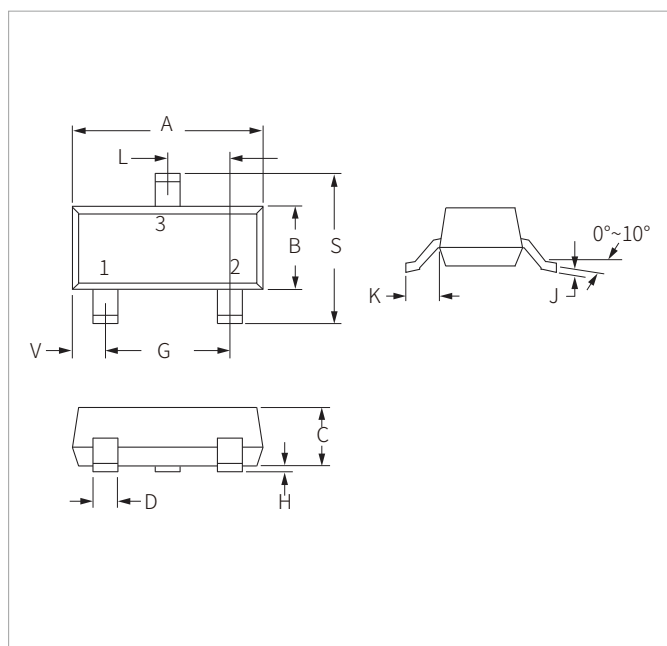


FIG.8 Relative variations of latching current versus junction temperature

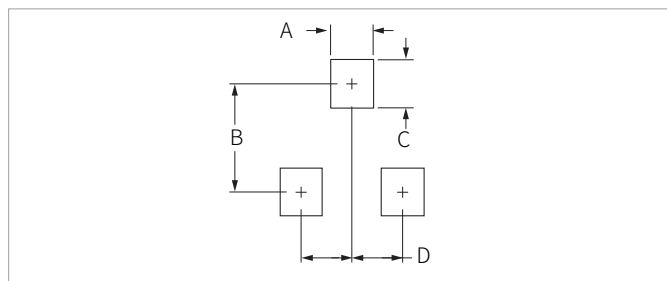


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MCR16	SOT-23	3000PCS	7"

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