

FEATURES

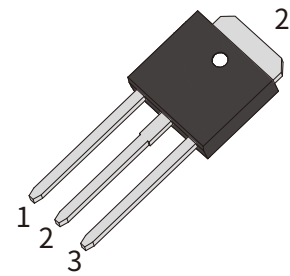
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 12 A

APPLICATIONS

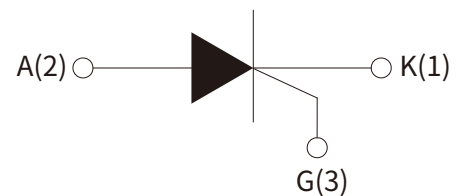
- | Flash lamp
- | Electronic ballast
- | Igniter

APPROVALS

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



TO-251



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	
RMS on-state current ($T_c=90^\circ\text{C}$)	$I_{\text{T(RMS)}}$	12	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$)	I_{TSM}	100	
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	50	A^2S
Critical rate of rise of on-state current ($I_G=2 \cdot I_{\text{GT}}$)	di/dt	50	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	1.2	A
Average gate power dissipation	$P_{\text{G(AV)}}$	0.2	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}	$V_D=12\text{V}, R_L=33\Omega$	-	60	200	μA
V_{GT}		-	-	0.8	V
V_{GD}	$V_D=V_{DRM}, T_j=110^{\circ}\text{C}$	0.2	-	-	
I_H	$I_T=50\text{mA}$	-	-	5	mA
I_L	$I_G=1.2I_{GT}$	-	-	6	
dV_D/dt	$V_D=536\text{V}, R_{GK}=100\Omega, T_j=110^{\circ}\text{C}$	50	100	-	$\text{V}/\mu\text{s}$

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V _{TM}	I _{TM} =24A,tp=380μs	T _j =25°C	≤1.6	V
I _{DRM}	V _D =V _{DRM} ,V _R =V _{RRM}		≤10	uA
I _{RRM}		T _j =125°C	≤2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	2.5	$^{\circ}\text{C}/\text{W}$

PARAMETER CHARACTERISTIC CURVE

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

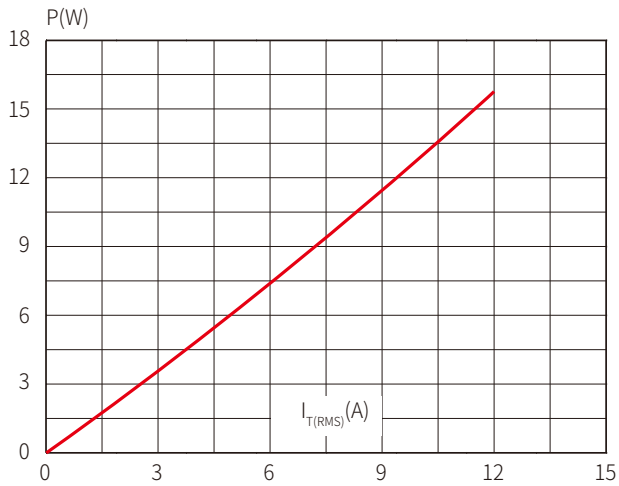


FIG.2: RMS on-state current versus case temperature

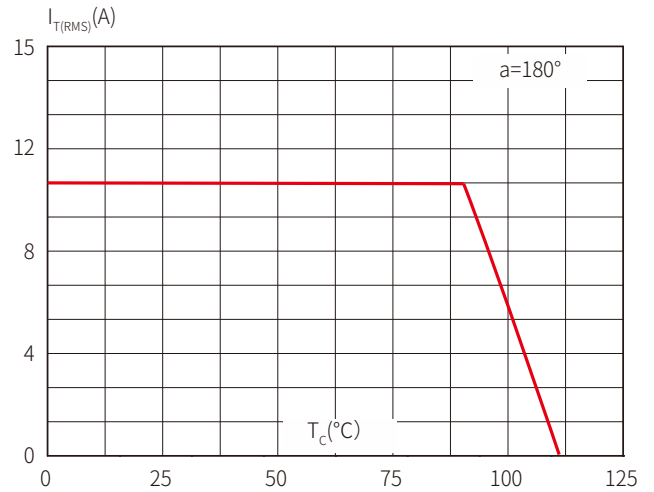


FIG.3: Surge peak on-state current versus number of cycles

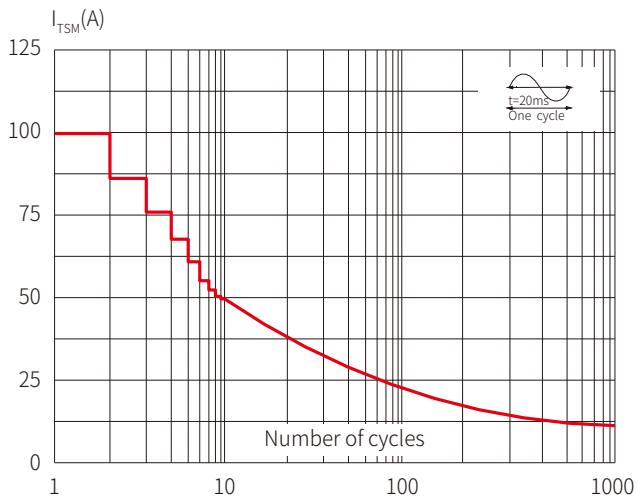


FIG.4 On-state characteristics (maximum values)

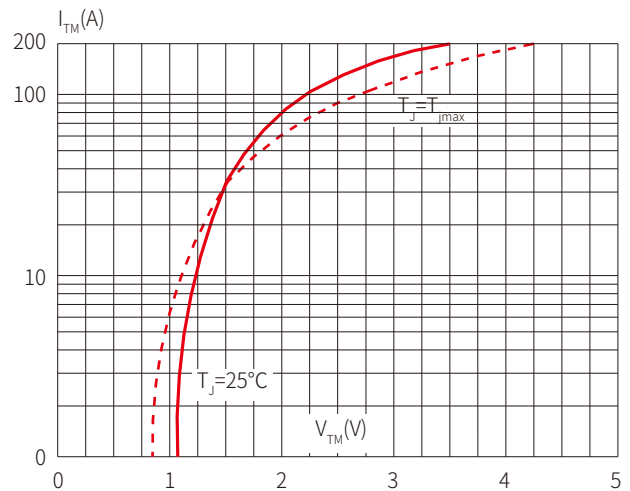


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

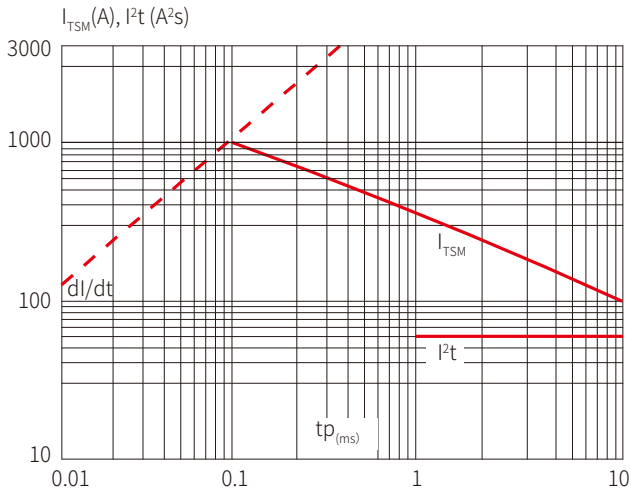


FIG.6 Relative variations of gate trigger current versus junction temperature

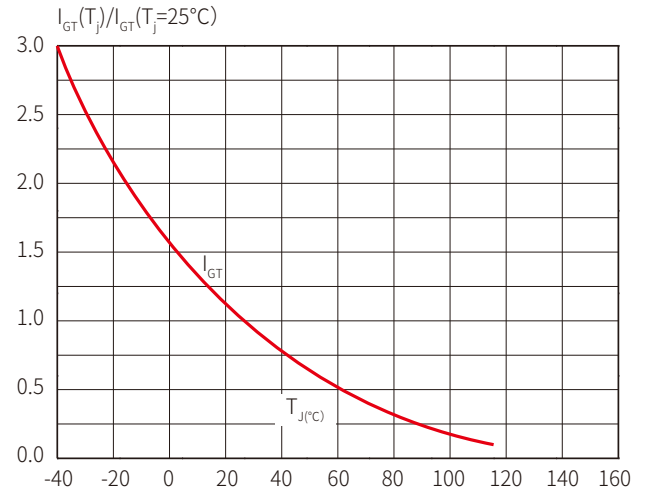


FIG.7 Relative variations of holding current versus junction temperature

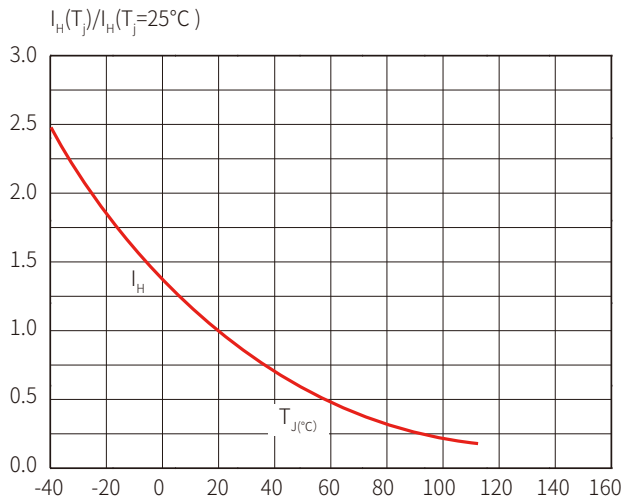
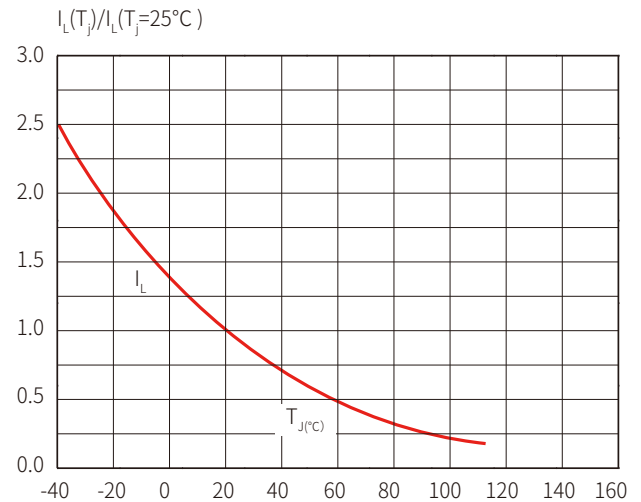
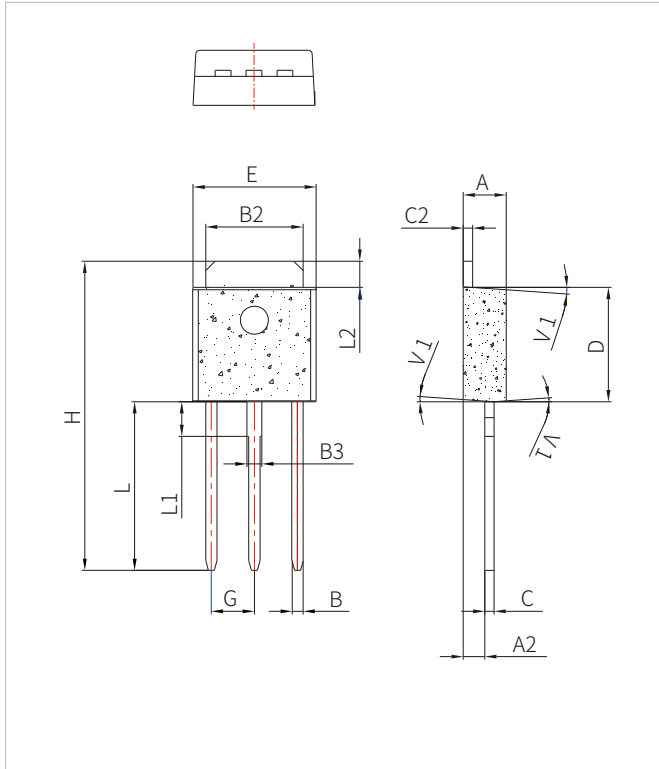


FIG.8 Relative variations of latching current versus junction temperature



TO-251 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	5.90		6.30	0.232		0.248
E	6.30		6.80	0.248		0.268
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		2.20	0.071		0.087
L2	1.37		1.50	0.054		0.059
V1		4°			4°	

ORDERING INFORMATION

Part Number	Package	Qty/pcs		
		Tube	Inner Box	Carton
SCH12M80	TO-251	80	4000	32000

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By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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