

FEATURES

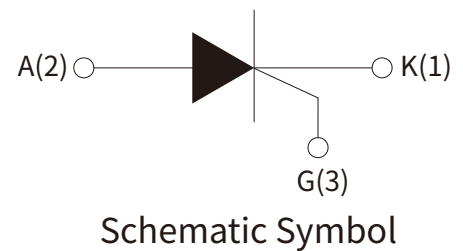
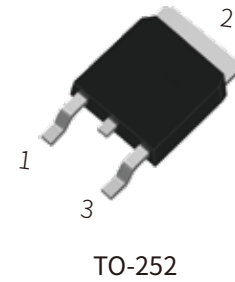
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 2.0 A

APPLICATIONS

- | Flash lamp
- | Electronic ballast
- | Igniter

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 ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	
RMS on-state current ($T_c=105^\circ\text{C}$)	$I_{\text{T(RMS)}}$	2	A
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	20	
I^2t value for fusing (tp=10ms)	I^2t	2	A ² S
Critical rate of rise of on-state current ($I_G=2 \cdot I_{\text{GT}}$)	di/dt	50	A/ μs
Peak gate current	I_{GM}	0.2	A
Average gate power dissipation	$P_{\text{G(AV)}}$	0.1	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}	$V_D=12\text{V}, R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_j=150^{\circ}\text{C}$	0.2	-	-	
I_H	$I_T=500\text{mA}$	-	-	5	mA
I_L	$I_G=1.2I_{GT}$	-	-	6	
dV_D/dt	$V_D=400\text{V}, R_{GK}=1\text{K}\Omega, T_j=125^{\circ}\text{C}$	60	-	-	$\text{V}/\mu\text{s}$

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	$I_{TM}=4A, tp=380\mu s$	$T_j=25^{\circ}C$	≤ 1.5	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$		≤ 5	μA
I_{RRM}		$T_j=125^{\circ}C$	≤ 100	μA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	7.3	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	Junction to ambient	60	$^{\circ}\text{C}/\text{W}$

PARAMETER CHARACTERISTIC CURVE

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

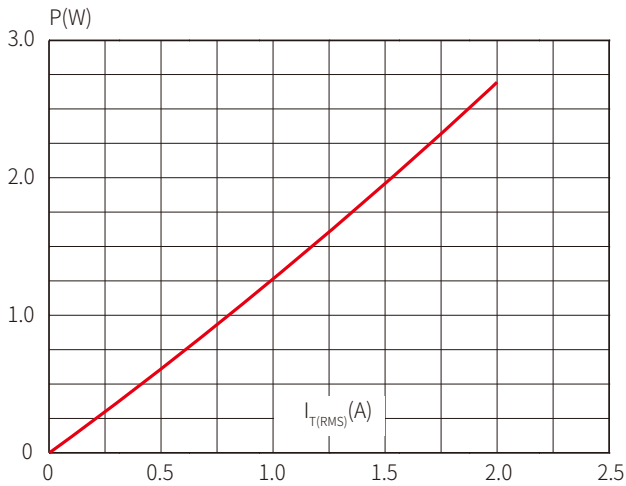


FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35 μ m)(full cycle)

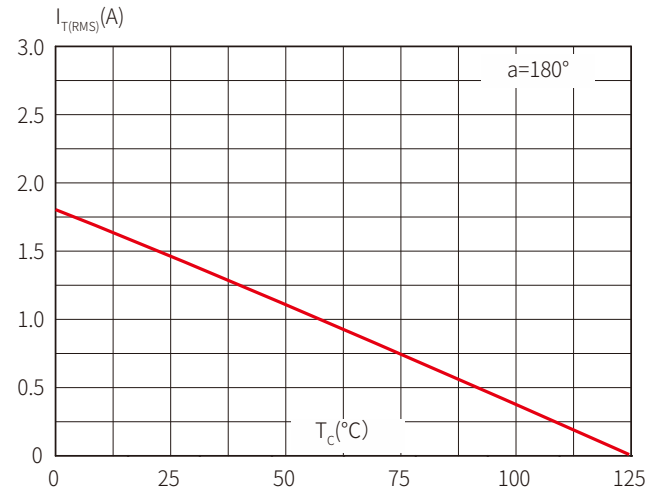


FIG.3: Surge peak on-state current versus number of cycles

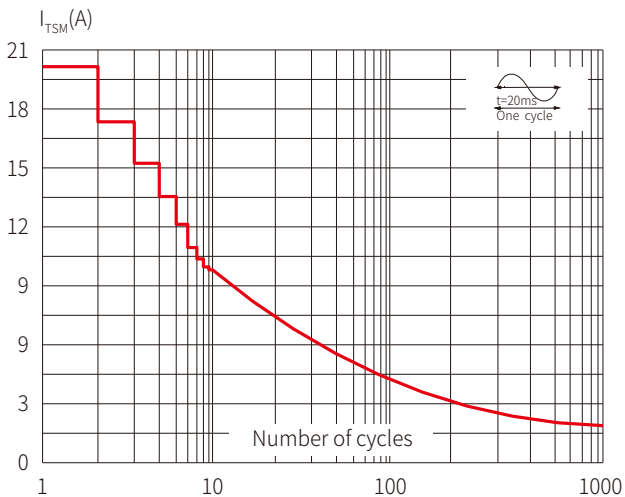


FIG.4 On-state characteristics (maximum values)

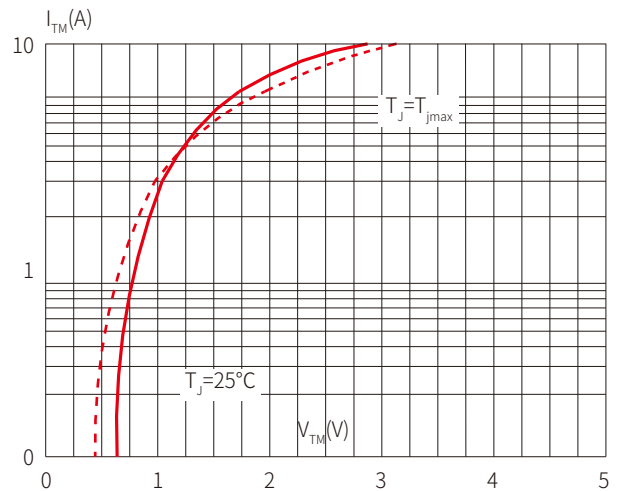


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

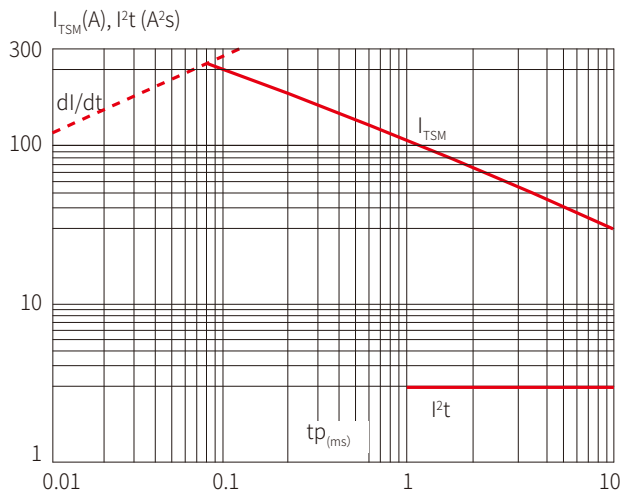


FIG.6 Relative variations of gate trigger current versus junction temperature

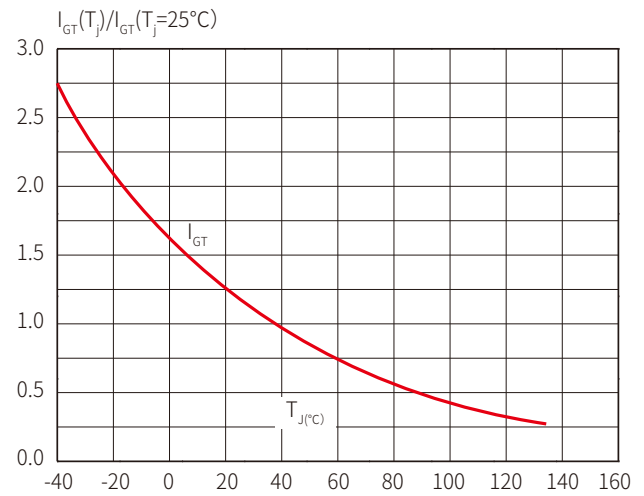


FIG.7 Relative variations of holding current versus junction temperature

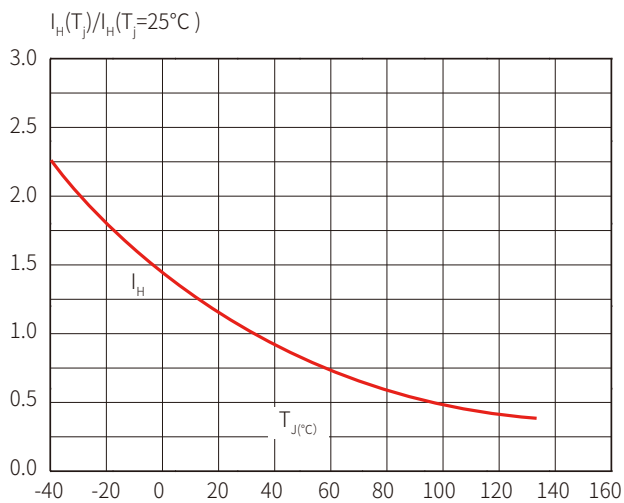
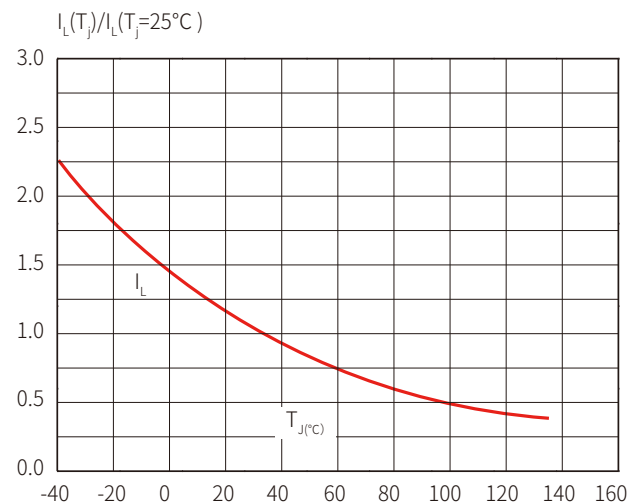
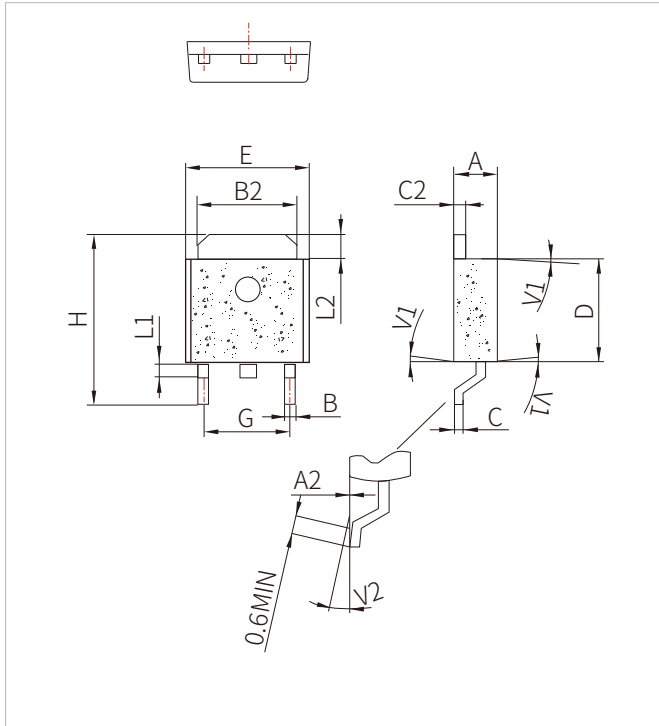


FIG.8 Relative variations of latching current versus junction temperature



TO-252 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.80	0.252		0.268
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.7	0.368		0.421
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
V1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Package	QTY/Reel	Reel Size
SCD2M80	TO-252	2500CS	13"

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