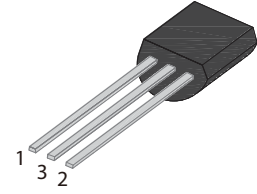


## FEATURES

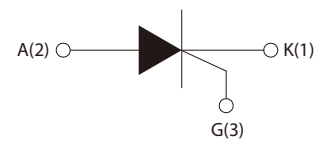
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 1.0 A
- | RoHS (2002/95/EC) compliant packages



TO-92

## APPLICATIONS

- | Flash lamp
- | Electronic ballast
- | Igniter



Schematic Symbol

## APPROVALS

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

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{\text{DRM}}$	600	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{\text{RRM}}$	600	
RMS on-state current ( $T_c=50^\circ\text{C}$ )	$I_{\text{T(RMS)}}$	1	A
Non repetitive surge peak on-state current ( $t_p=10\text{ms}$ )	$I_{\text{TSM}}$	12	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	0.72	$\text{A}^2\text{S}$
Critical rate of rise of on-state current ( $I_G=2*I_{GT}$ )	$d/d_t$	50	$\text{A}/\mu\text{s}$
Peak gate current	$I_{\text{GM}}$	0.3	A
Average gate power dissipation	$P_{\text{G(AV)}}$	0.1	W
Storage junction temperature range	$T_{\text{STG}}$	-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.	
$I_{GT}$	$V_D=12\text{V}, R_L=33\Omega$	-	40	200	$\mu\text{A}$
$V_{GT}$		-	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	-	-	
$I_H$	$I_T=500\text{mA}$	-	-	4	mA
$I_L$	$I_G=1.2I_{GT}$	-	-	5	
$dV_D/dt$	$V_D=540\text{V}, R_{GK}=1\text{K}\Omega, T_j=125^{\circ}\text{C}$	100	-	-	$\text{V}/\mu\text{s}$

## STATIC CHARACTERISTICS

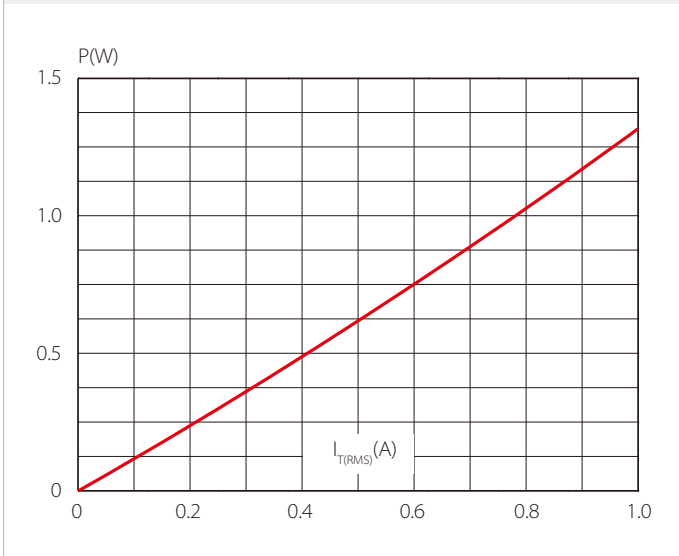
Symbol	Parameter	Value	Unit
$V_{TM}$	$I_{TM}=2\text{A}, t_p=380\mu\text{s}$	$\leq 1.4$	V
$I_{DRM}$	$V_D=V_{DRM}, V_R=V_{RRM}$	$\leq 5$	$\mu\text{A}$
$I_{RRM}$		$\leq 100$	$\mu\text{A}$

## THERMAL RESISTANCES

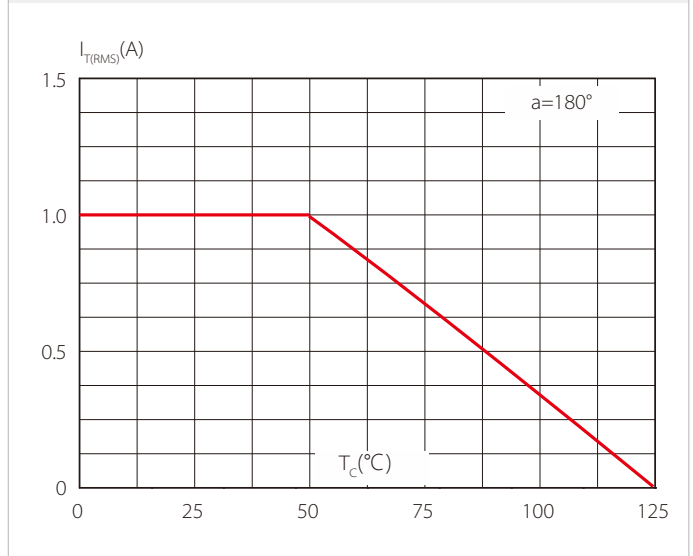
Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	70	$^{\circ}\text{C}/\text{W}$

## PARAMETER CHARACTERISTIC CURVE

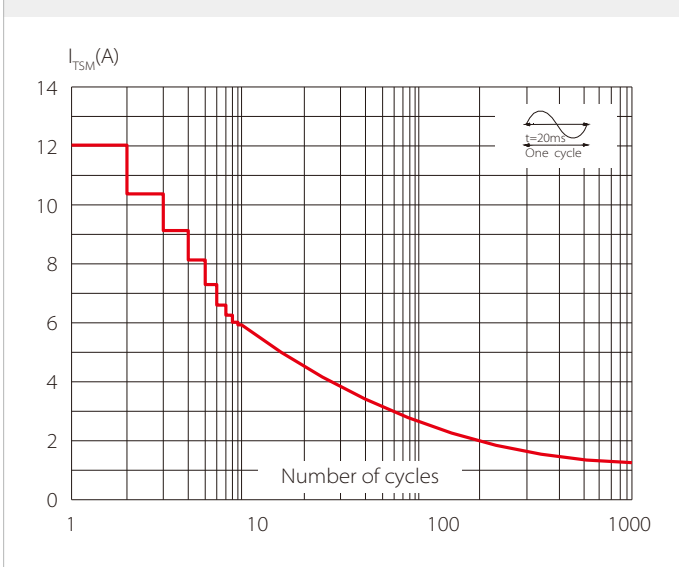
**FIG.1 Maximum power dissipation versus RMS on-state current**



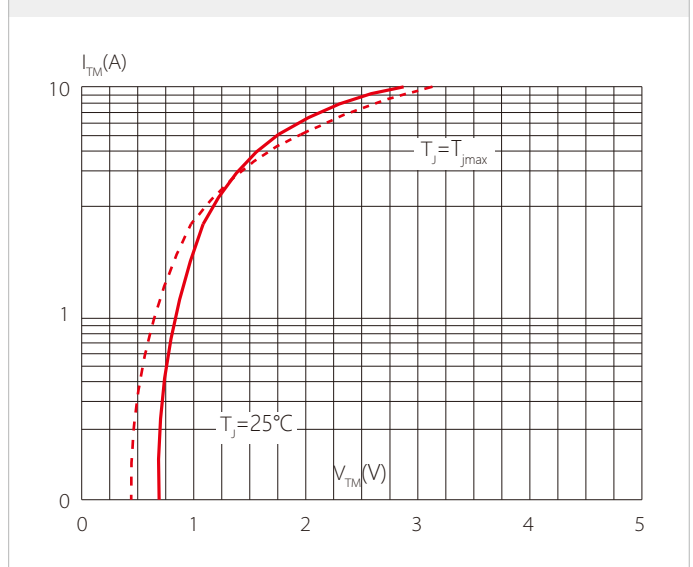
**FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35 $\mu$ m)(full cycle)**



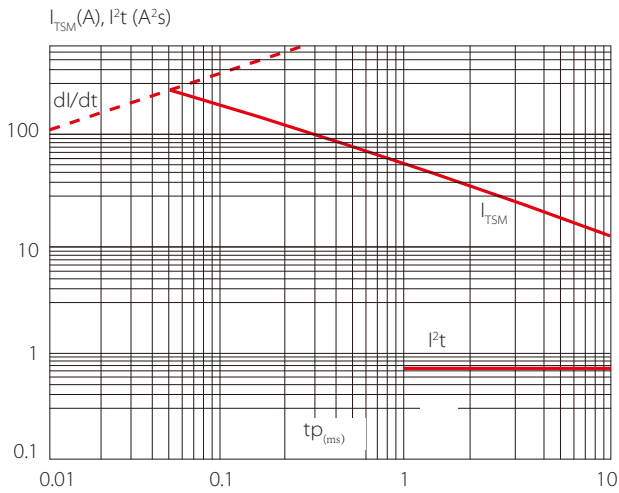
**FIG.3: Surge peak on-state current versus number of cycles**



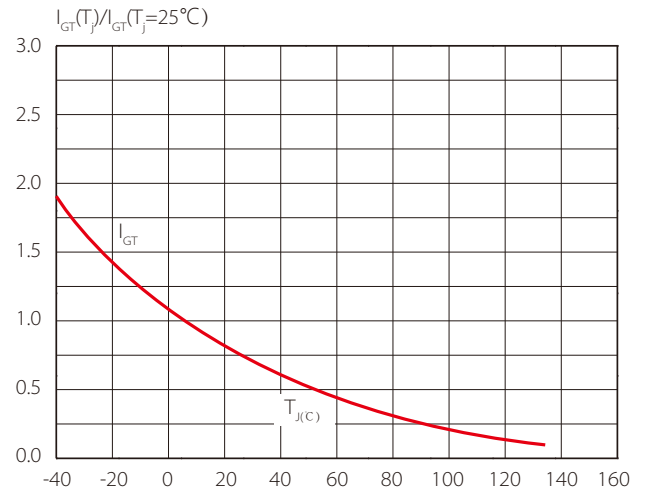
**FIG.4 On-state characteristics (maximum values)**



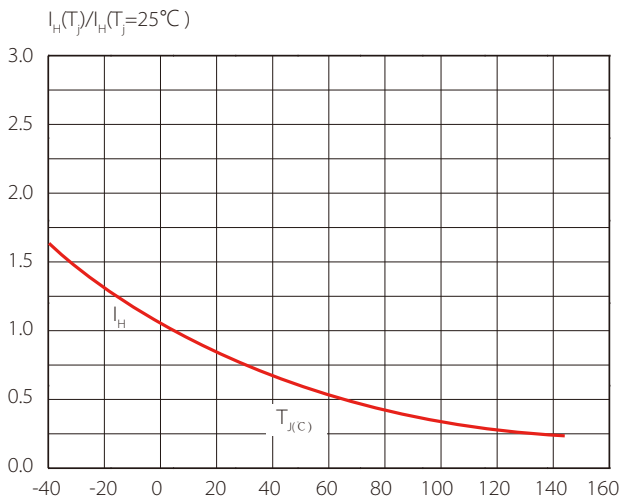
**FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$  and corresponding value of  $I^2t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )**



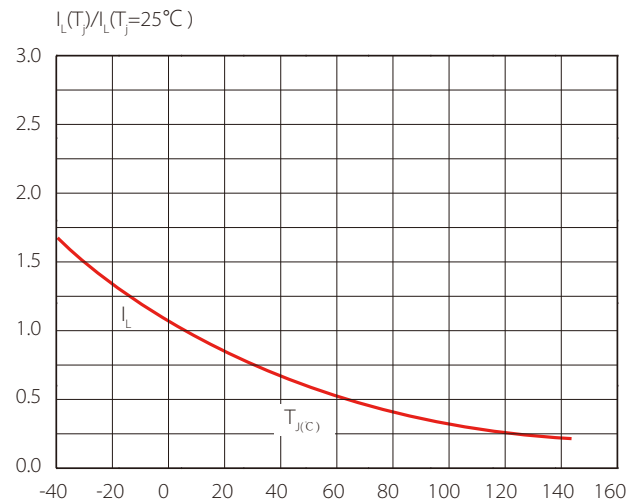
**FIG.6 Relative variations of gate trigger current versus junction temperature**



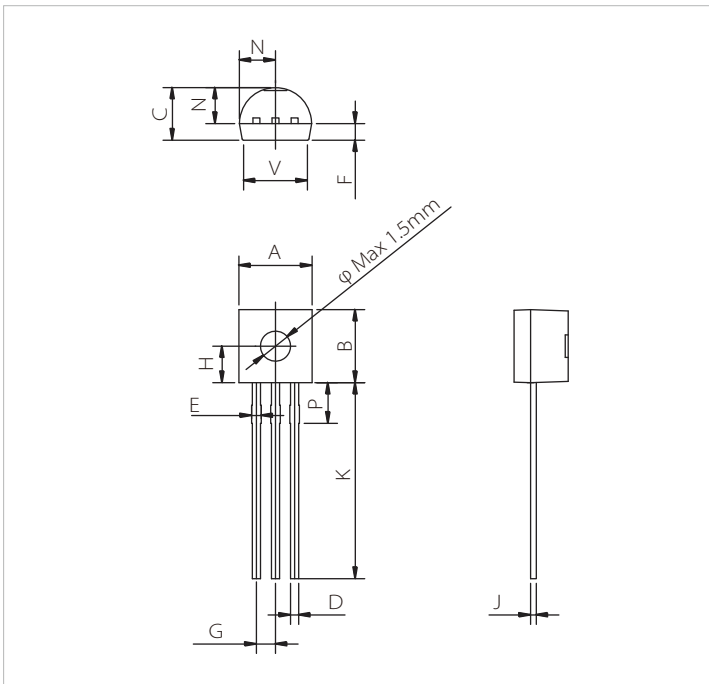
**FIG.7 Relative variations of holding current versus junction temperature**



**FIG.8 Relative variations of latching current versus junction temperature**



## TO-92 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.40		0.54	0.016		0.021
E	0.60		0.80	0.024		0.031
F		1.10			0.043	
G		1.27			0.050	
H		2.30			0.091	
J	0.36		0.50	0.014		0.020
K	12.7		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V			4.30			0.169

## ORDERING INFORMATION

Part Number	Package	Qty/pcs		
		Shielding Bag	Inner Box	Carton
SCN1M60	TO-92	1000	10000	30000

**Headquarters**

No.3387 Shendu Road Pujiang  
I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

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