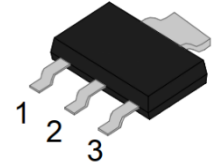


Silicon Controlled Rectifier

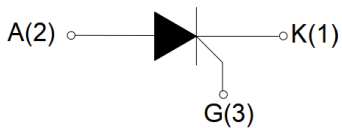
Features

- Blocking Voltage to 600 V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant
- High Dv/Dt Rate
- $I_{T(RMS)}$ to 2A of SCR



SOT-223-3L

Pin Configuration



Absolute Maximum Ratings (T_c=25°C Unless otherwise specified)

Parameter	Symbol	Value	Unit
Storage junction temperature range	T _{stg}	-40~150	°C
Operating junction temperature range	T _j	-40~110	°C
Repetitive peak off-state voltage (T _j =25°C)	V _{DRM}	600	V
Repetitive peak reverse voltage (T _j =25°C)	V _{RRM}	600	V
RMS on-state current	I _{T(RMS)}	2	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I _{TSM}	20	A
I ² t value for fusing (t _p =10ms)	I ² _t	2	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})	dI/dt	50	A/μs
Peak gate current	I _{GM}	0.2	A
Average gate power dissipation	P _{G(AV)}	0.1	W
Peak gate power	P _{GM}	0.5	W

Thermal Resistance(between Junction and Case) @SOT-223-3L	$R_{\theta(J-C)}$	20 (Typ.)	°C/W
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Electronics Characteristics (T_c=25°C Unless otherwise specified)

Parameter	Symbol	Min	Typ.	Max.	Unit
Gate Trigger Current (Continuous dc)@VD=12V, RL=33Ω	I _{GT}	-	40	200	uA
Gate Trigger Voltage (Continuous dc) @VD=12V, RL=33Ω	V _{GT}	-	0.5	1.5	V
Gate non-trigger voltage@VD=VDRM,Tj=110°C	V _{GD}	0.2	-	-	V
Holding Current@IT=50mA	I _H	-	-	2	mA
Latching Current@IG=1.2IGT	I _L	-	-	3	mA
Critical Rate-of-Rise of Off State Voltage@VD=0.66xVDRM, Tj=110°C, RGK=1 KΩ	dV/dt	10	-	-	V/μs
Peak Forward On-State Voltage@ITM=4A, tp=380μs, Tj=25°C	V _{TM}	-	-	1.5	V
Peak Repetitive Forward@VDRM=VRRM, RGK=1 KΩ Tj=25°C	I _{DRM}	-	-	5	μA
Reverse Blocking Current@VDRM=VRRM, RGK=1 KΩ Tj=110°C	I _{RRM}	-	-	100	μA

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

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

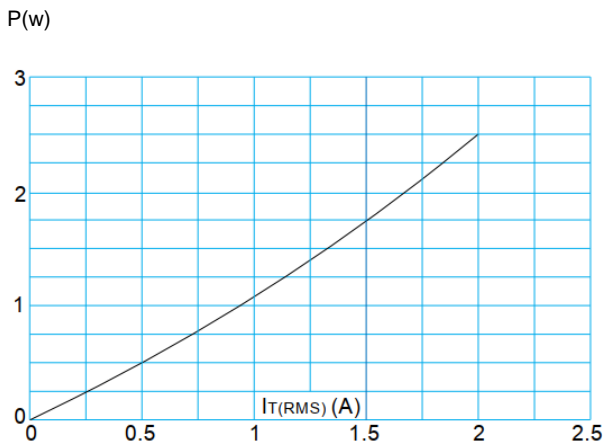


FIG.3: Surge peak on-state current versus number of cycles

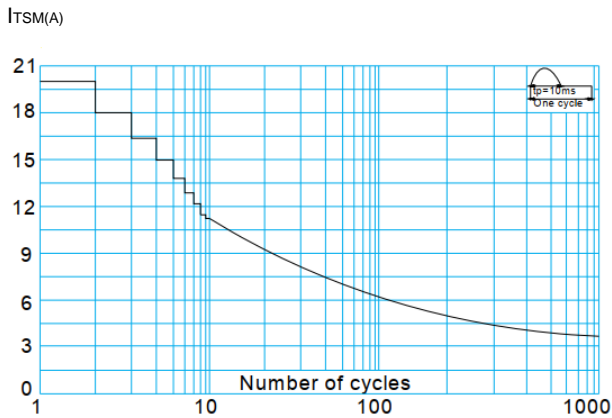


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of $I^2 t$ ($di/dt < 50A/\mu s$)

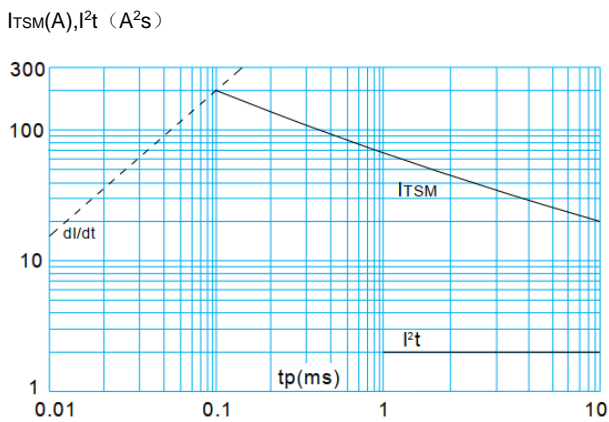


FIG.2: RMS on-state current versus case temperature in different packaging

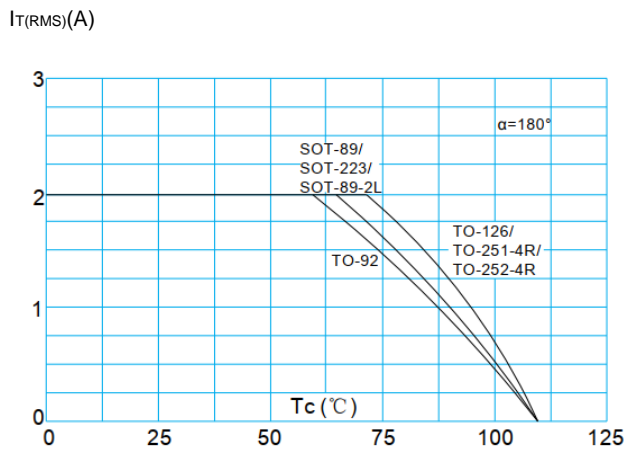


FIG.4: On-state characteristics (maximum values)

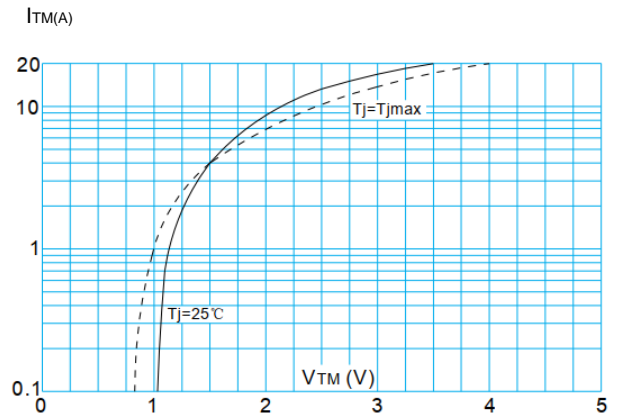
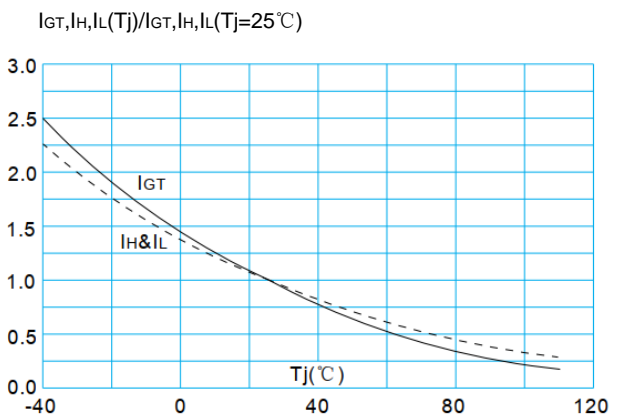
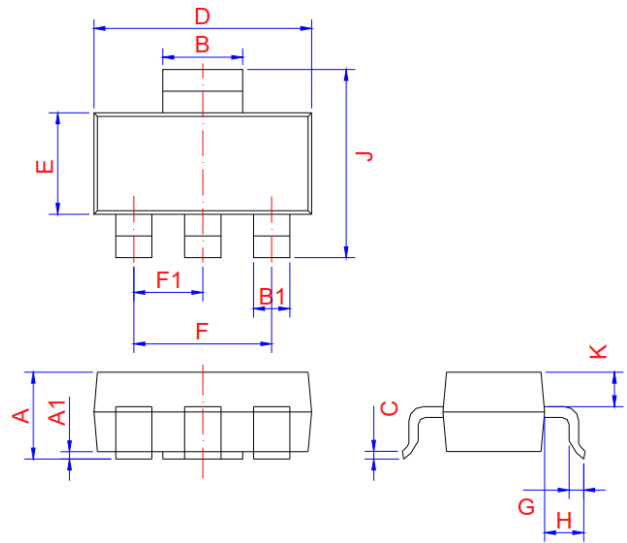


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

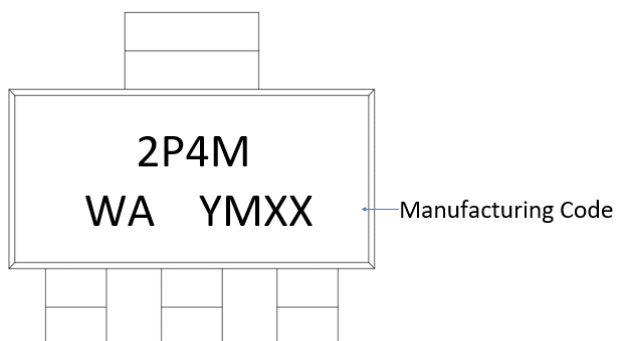


Outline Drawing

SYMBOL	MM		
	MIN	NOM	MAX
A	1.5	1.6	1.81
A1	0.01	0.06	0.14
B	2.9	3.0	3.1
B1	0.6	0.7	0.84
C	0.22	0.25	0.35
D	6.2	6.5	6.7
E	3.3	3.5	3.7
F	-	4.6	6.8
F1	-	2.3	-
G	0.7	0.9	1.15
H	1.5	1.75	2.0
J	6.7	7.0	7.3
K	0.8	0.9	1.0



Marking Code



Package Information

Package	Base qty.	Delivery mode
SOT-223-3L	4000	Reel

Contact Information

No.1001, Shiwan(7) Road, Pudong District, Shanghai, P.R.China.201207

Tel: 86-21-50310888 Fax: 86-21-50757680 Email: market@way-on.com

WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

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