

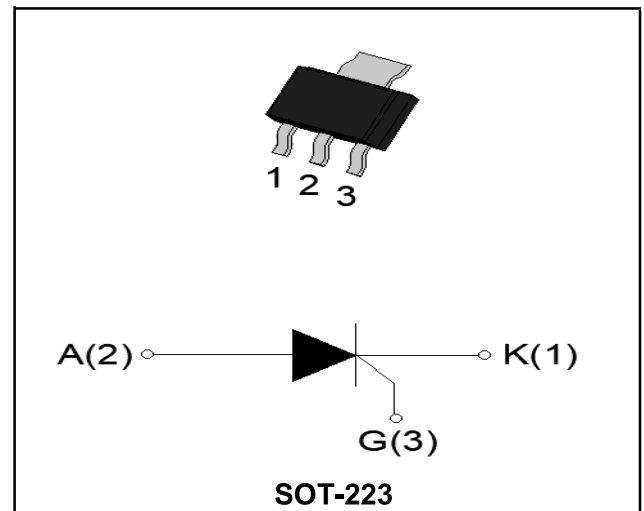
1.0A Sensitive Gate SCRs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	1.0	A
$V_{DRM} V_{RRM}$	600/800	V
V_{TM}	100	uA

Features

With high ability to withstand the shock loading of arge current, Provide high dv/dt rate with strong resistance to electromagnetic interference



Application

Power charger, T-tools, massager, solid staterelay, AC Motor speed regulation and so on.

Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600/800	V
Repetitive peak reverse voltage	V_{RRM}	600/800	V
RMS on-state current	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	12	A
I^2t value for fusing (tp=10ms)	I^2t	0.72	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	50	A
Peak gate current	I_{GM}	0.5	A
Average gate power dissipation	$P_G (AV)$	0.1	W
Junction Temperature	T_J	-40~+125	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

Electrical characteristics (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value		Unit
			Min	Max	
Gate trigger current	I_{GT}	$V_D=12V$ $I_T=10mA$ $T_j=25^\circ C$	-	100	UA
			-	0.8	V
Gate non-trigger voltage	V_{GD}	$V_D=1/2V_{DRM}$ $T_j=110^\circ C$	0.2	-	V
latching current	I_L	$V_D=12V$ $I_{GT}=0.5mA$ $RGK=1k\Omega$ $T_j=25^\circ C$	-	5	mA
Holding current	I_H		-	4	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=110^\circ C$	50	-	V/us

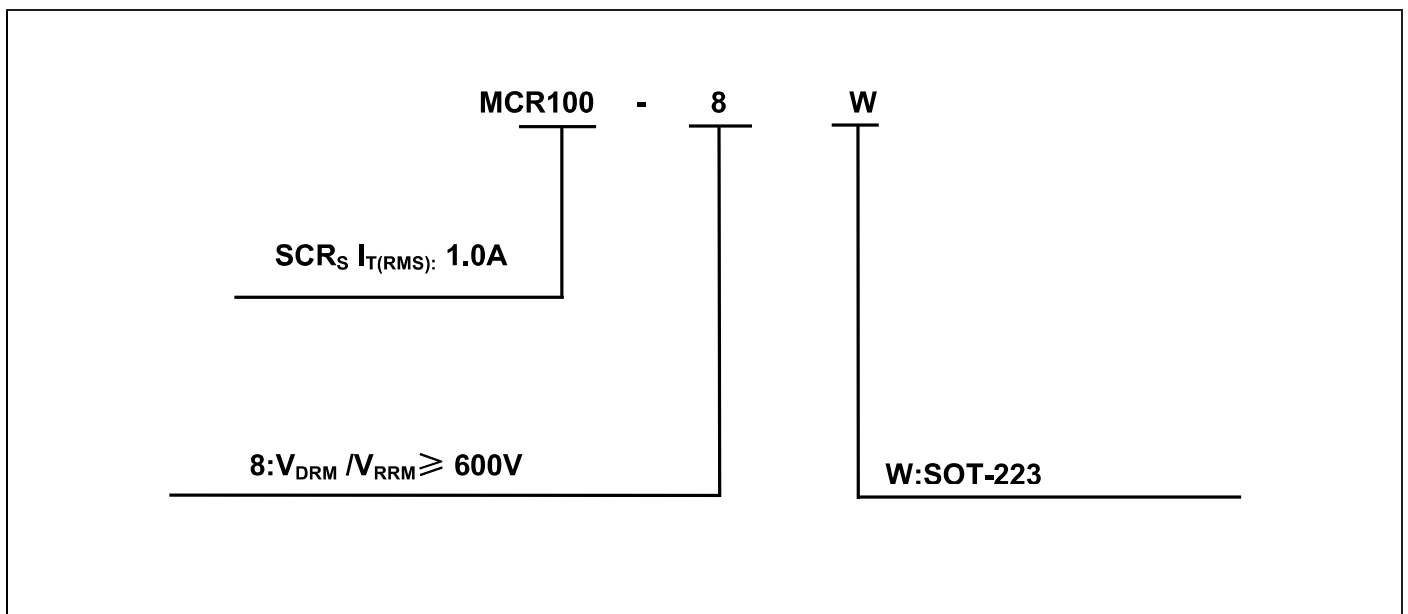
STATIC CHARACTERISTICS

Forward "on" voltage	V_{TM}	I _{TM} =2A tp=380ps		-	1.7	V
Repetitive Peak Off-State Current	I_{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	-	5	UA
Repetitive Peak Reverse Current	I_{RRM}		T _j =110°C	-	0.1	mA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	20	$^\circ C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	60	$^\circ C/W$

Ordering Information



Typical Characteristics

FIG1 Maximum power dissipation versus RMS on-state current

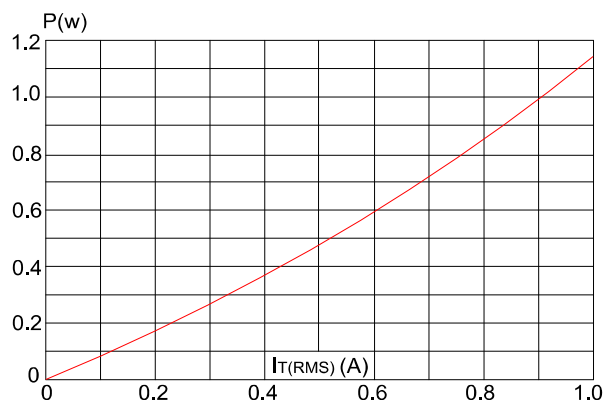


FIG2 RMS on-state current versus case temperature

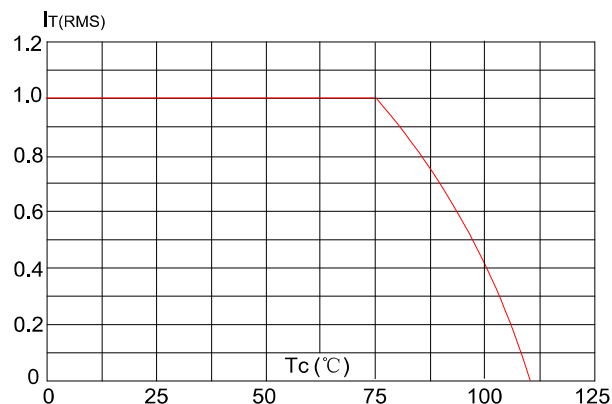


FIG3 Surge peak on-state current versus number of cycles

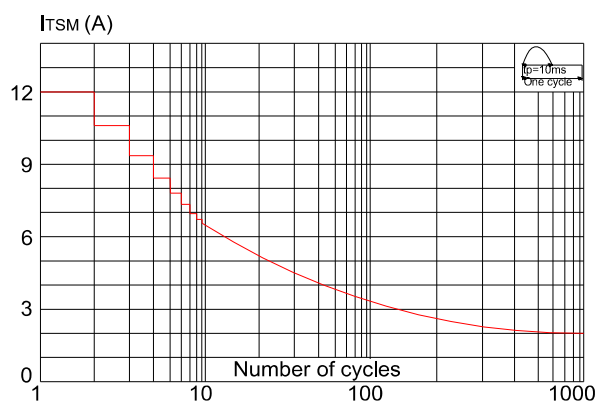


FIG4 On-state characteristics (maximum values)

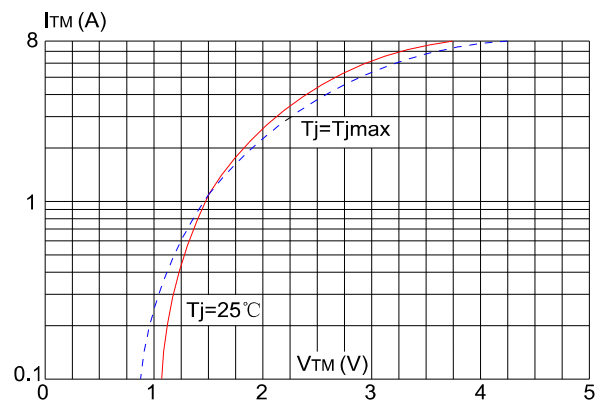


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t ($dI/dt < 100A/\mu s$)

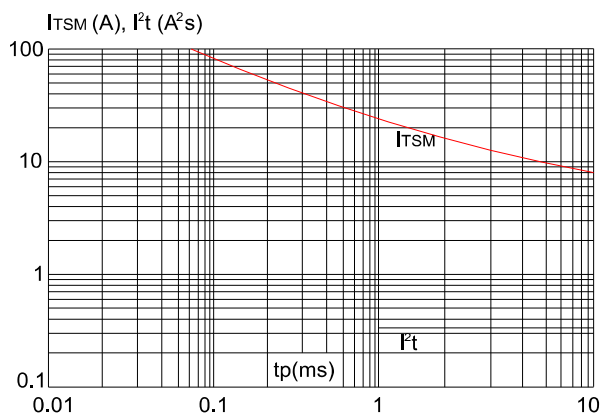
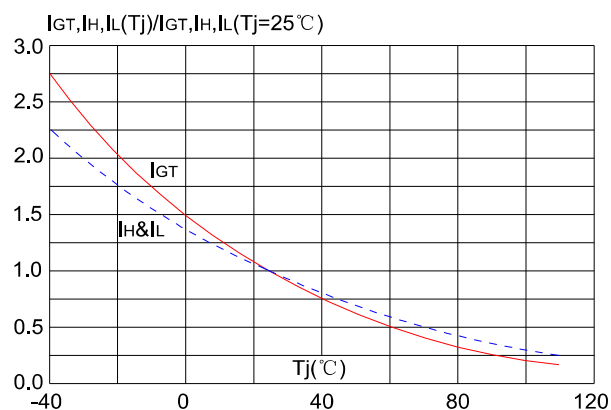


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



Ordering information

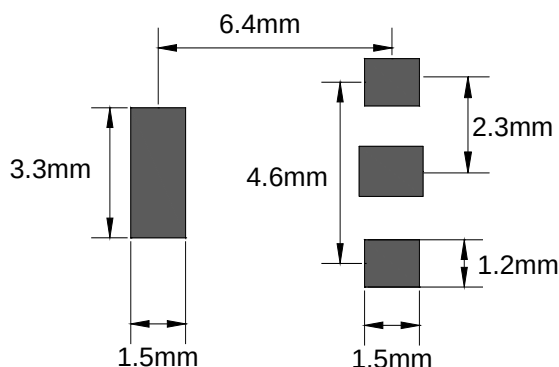
Package	Packing Description	Base Quantity	Packing Quantity
SOT-223	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel, 13" reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-223

Dlm	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045

The recommended mounting pad size



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