

2.0A Standard SCRs

Product Summary

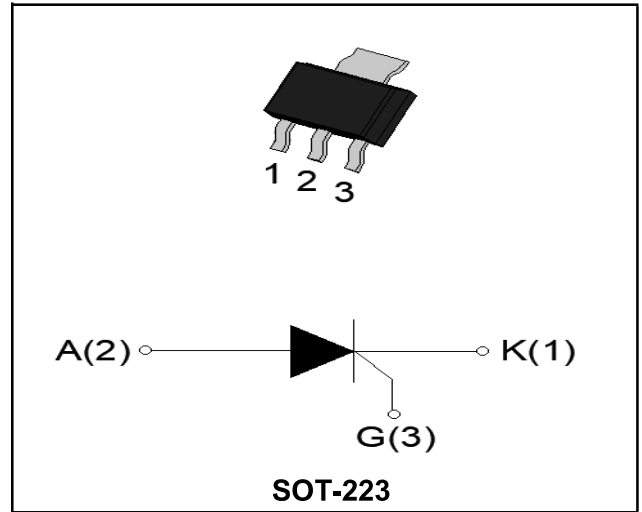
Symbol	Value	Unit
$I_{T(RMS)}$	2.0	A
$V_{DRM} V_{RRM}$	600	V
V_{TM}	1.6	V

Features

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

Application

Power charger, T-tools, massager, solid state relay, 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	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	2.0	A
Non repetitive surge peak on-state current	I_{TSM}	20	A
I^2t value for fusing (tp=10ms)	I^2t	2	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_G $)	di_T/dt	I - II - III 50	A/ μ s
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	Typ	Max	
Gate trigger current	I_{GT}	$V_D=12V, R_L=30\Omega$	-	-	200	μA
Gate trigger voltage	V_{GT}	$V_D=12V, R_L=30\Omega$	-	-	0.8	V
Non-triggering gate voltage	V_{GD}	$V_D=V_{DRM}, R_L=3.3k\Omega, T_j=125^\circ C$	0.2	-	-	V
Holding current	I_H	$I_T=50mA$	-	-	5	mA
Latching current	I_L	$I_G=1.2I_{GT}$	-	-	6	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=67\%V_{DRM}, R_{GK}=1k\Omega, T=125^\circ C$	20	-	-	V/ μs

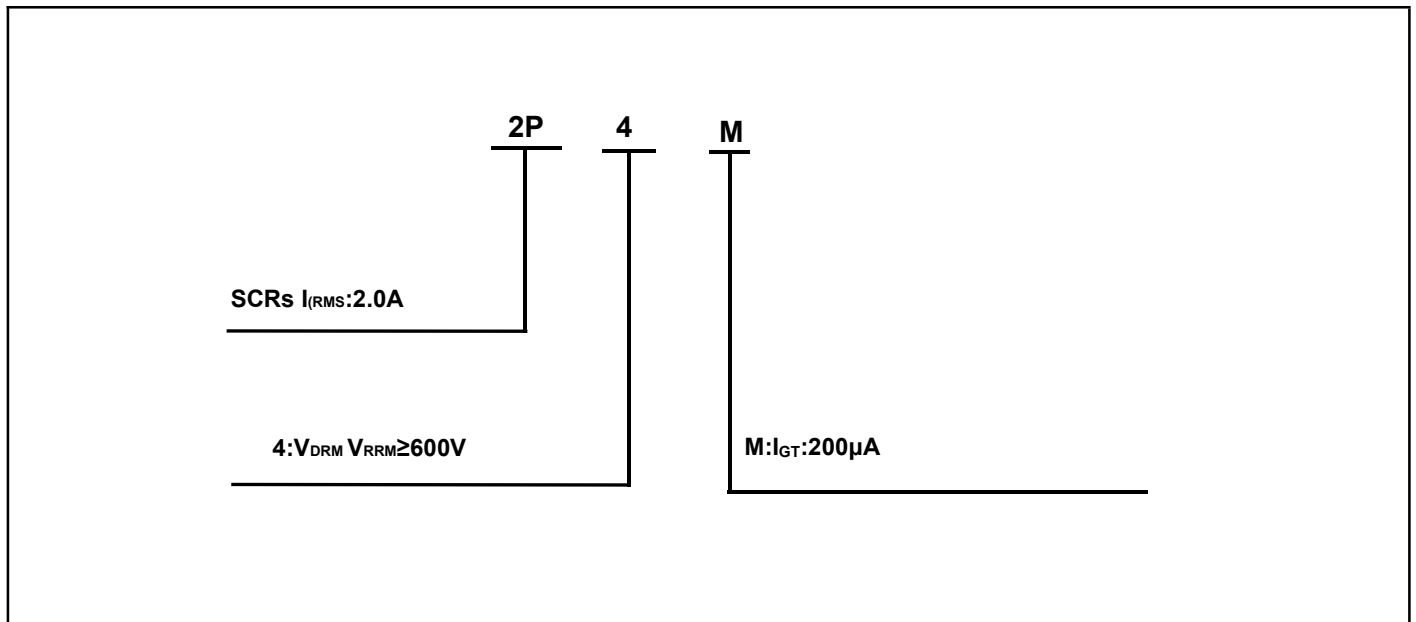
STATIC CHARACTERISTICS

On-state Voltage	V_{TM}	$I_T=4A, t_p=380\mu s$	-	-	1.6	V	
Repetitive Peak Off-State Current	I_{DRM}	$V_D=V_{DRM}=V_{RRM}$	$T_j=25^\circ C$	-	-	10	μA
Repetitive Peak Reverse Current	I_{RRM}		$T_j=125^\circ C$	-	-	1	mA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	7.3	$^\circ C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	60	$^\circ C/W$

Ordering Information



Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

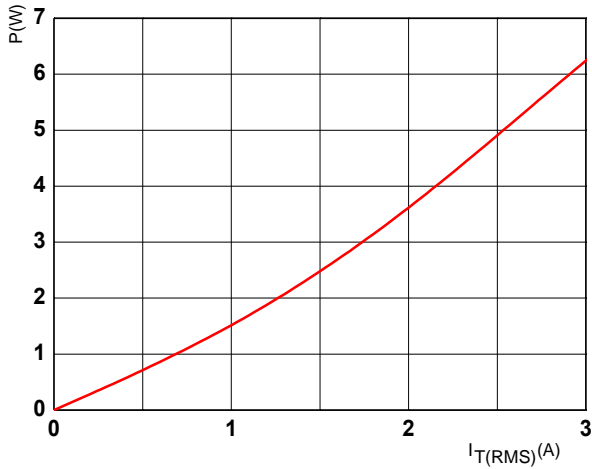


FIG.2: RMS on-state current versus case temperature (full cycle)

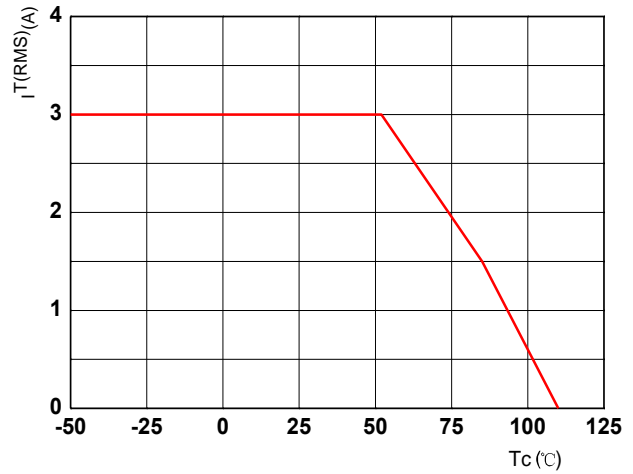


FIG.3: Surge peak on-state current versus number of cycles

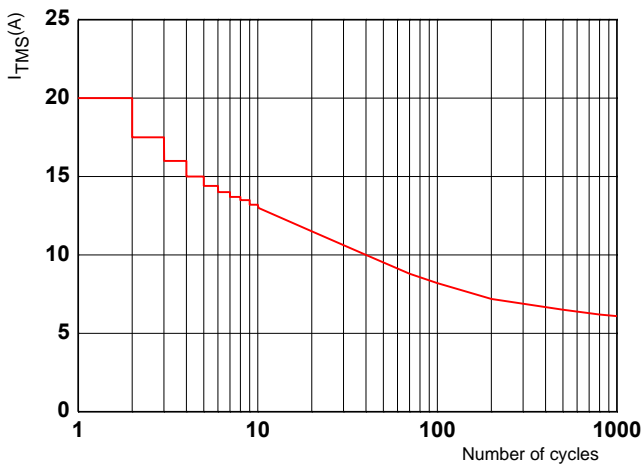


FIG.4: On-state characteristics (maximum values)

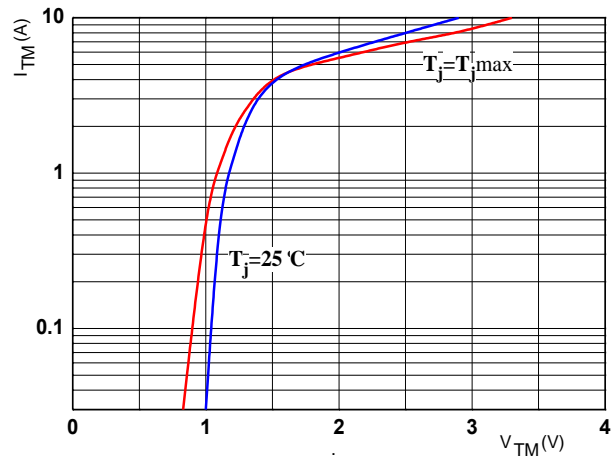


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$

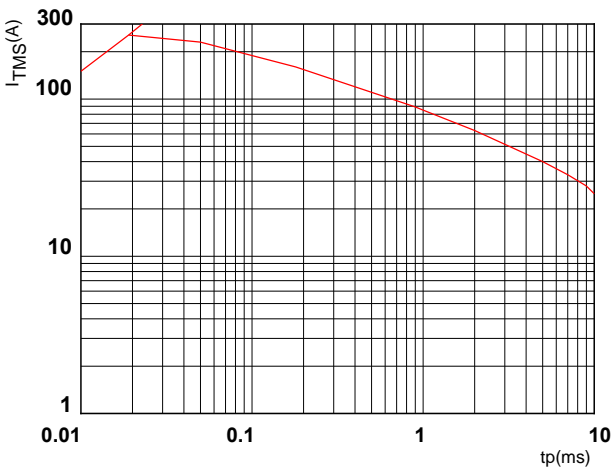
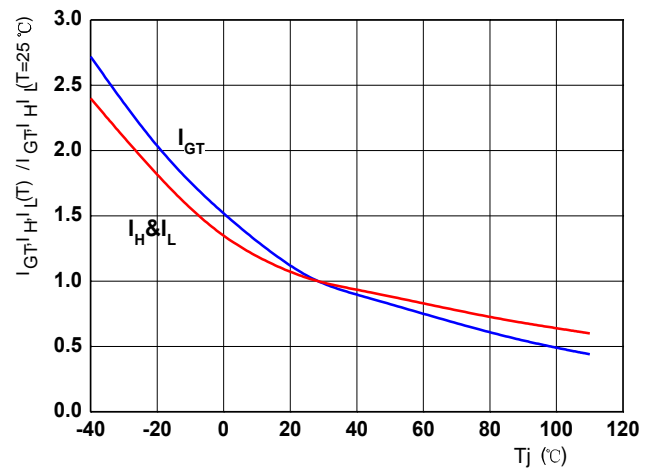


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering information

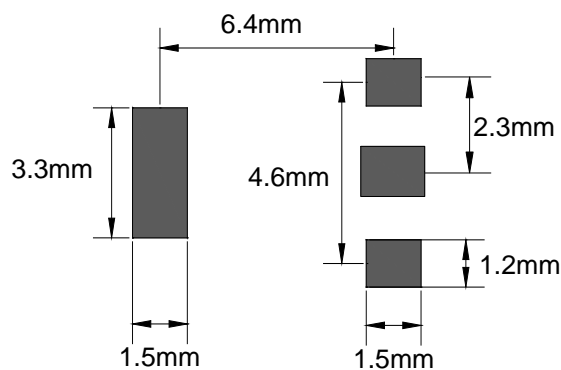
Package	Packing Description	Base Quantity	Packing Quantity
SOT-223	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel, 13" reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-223

Dim	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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