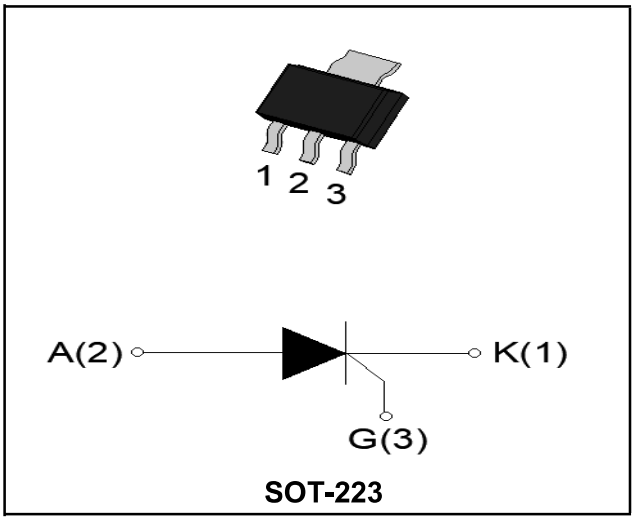
0.8A Sensitive Gate SCRs

Product Summary

Symbol	Value	Unit
$I_{T(AV)}$	0.8	A
V_{DRM} V_{RRM}	600/800	V
V_{TM}	1.5	V



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.

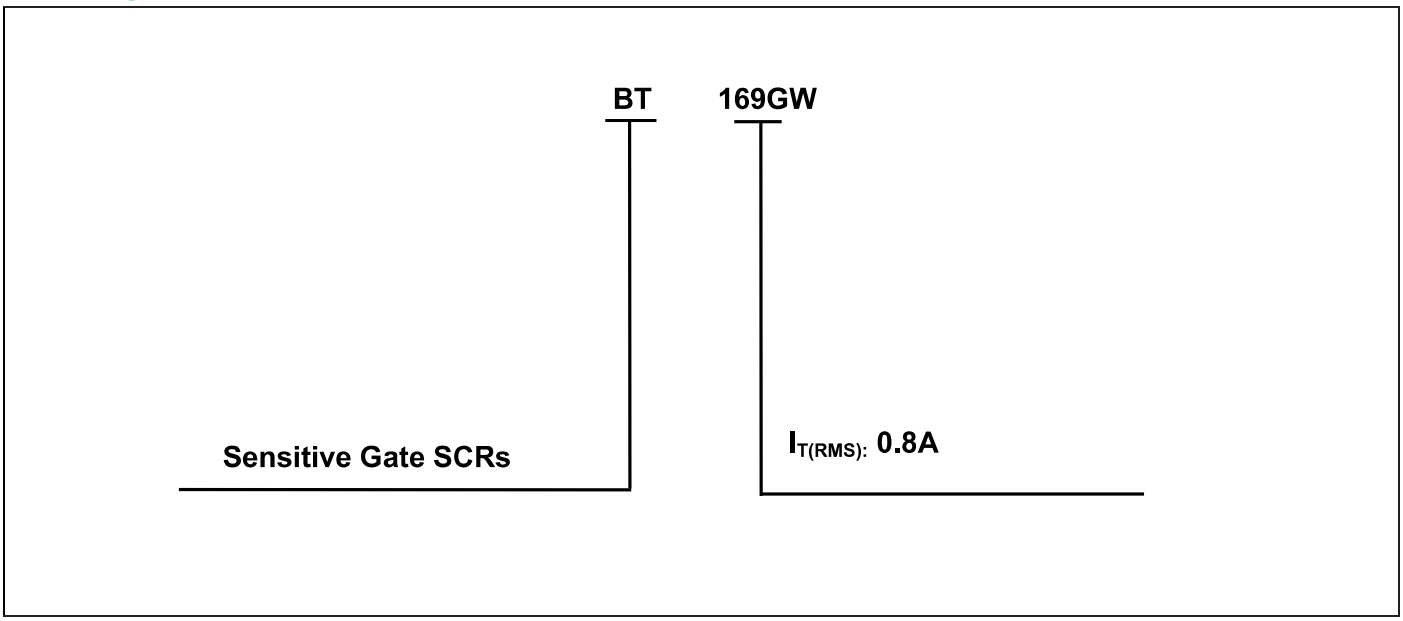
Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600/800	V
Repetitive peak reverse voltage	V_{RRM}	600/800	V
On state average current	$I_{T(AV)}$	0.5	A
RMS on-state current	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	10	A
I^2t value for fusing (tp=10ms)	I^2t	3.2	A^2s
Critical rate of rise of on-state current (I_G =2 x I_{GT})	dI/dt	50	A/us
Peak gate current	I_{GM}	0.2	A
Gate peak power	P_{GM}	0.5	W
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Junction Temperature	T_J	-40~+110	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

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

Parameter	Symbol	Test Condition		Value			Unit
				Min	Typ	Max	
Gate trigger current	I_{GT}	V_D=6V,R_L=100Ω, RGK=1KΩ,Fig.6		10	20	60	uA
Gate trigger voltage	V_{GT}	V_D=12V, RL=100Ω, RGK=1KΩ		-	-	0.8	V
Gate non-trigger voltage	V_{GD}	V_D =1/2V_{DRM}, RGK=1KΩ,Tj=110°C		0.2	-	-	V
latching current	I_L	IG=1.2IGT,Fig.6		-	-	4	mA
Holding current	I_H	V_D =24V,I_{TM}=4A RGK=1kΩ,Tj=25°C, Fig.6		-	1	3	mA
Critical-rate of rise of commutation voltage	dV_D/dt	V_D=2/3V_{DRM} , RGK=1KΩ,Tj=110°C		10	-	-	V/us
STATIC CHARACTERISTICS							
Forward "on" voltage	V_{TM}	I_{TM} =1.2A,Fig.4		-	-	1.5	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	-	-	100	uA
THERMAL RESISTANCES							
Thermal resistance	Rth(j-c)	Junction to case		TYP.		20	°C/W
	Rth(j-a)	Junction to ambient	S=5cm2	TYP.		60	°C/W

Ordering Information



Typical Characteristics

FIG1 Maximum power dissipation versus RMS on-state current

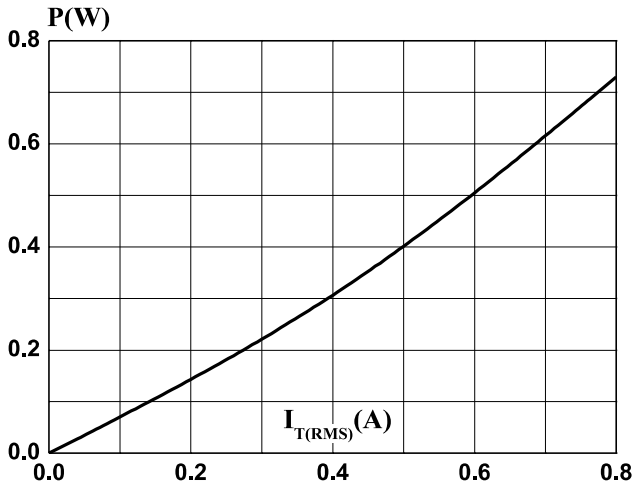


FIG2 RMS on-state current versus case temperature

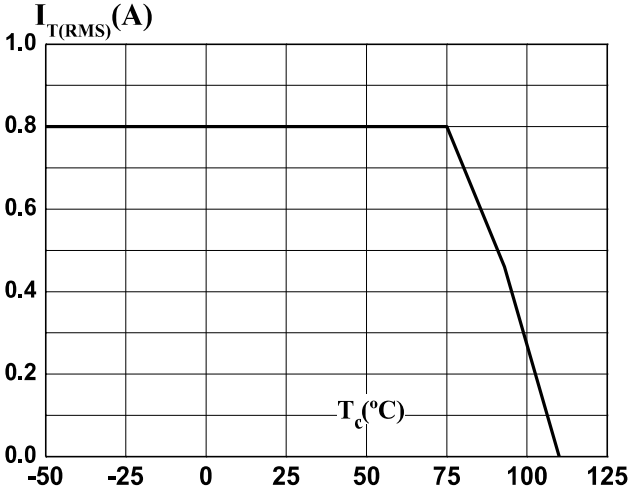


FIG3 Surge peak on-state current versus number of cycles

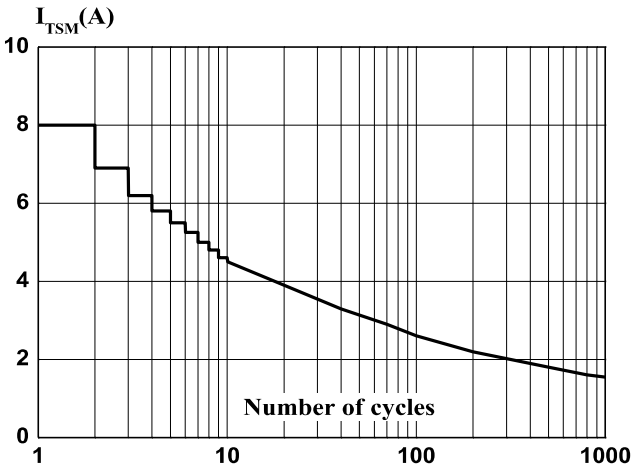


FIG4 On-state characteristics (maximum values)

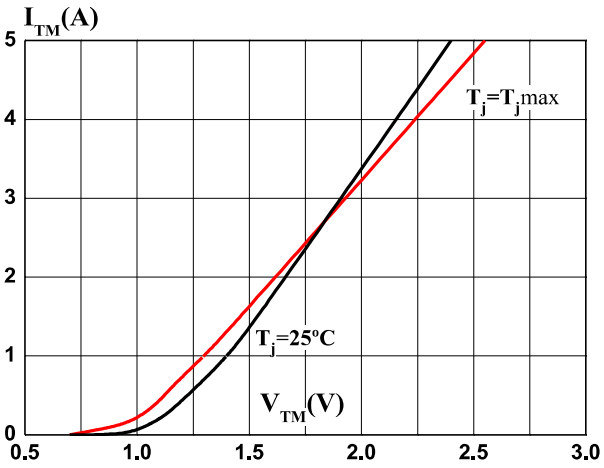


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

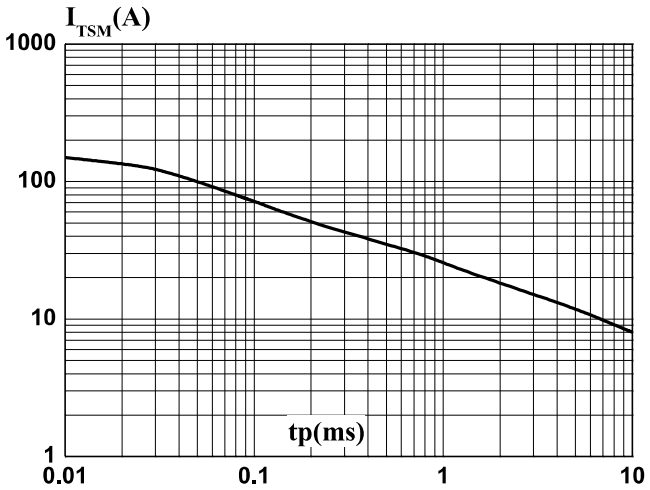
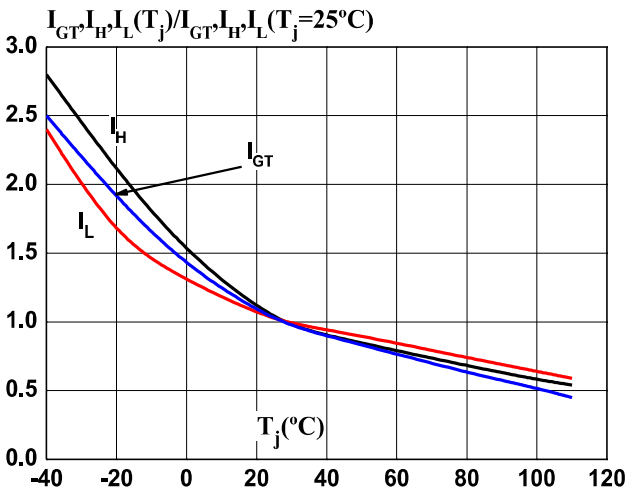


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature

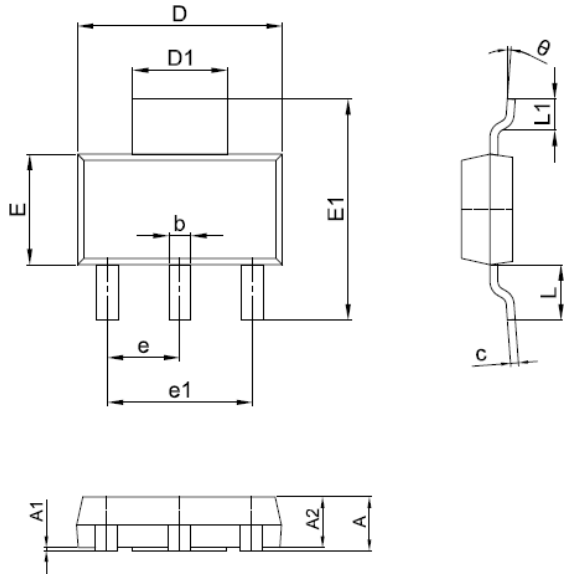


Ordering information

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

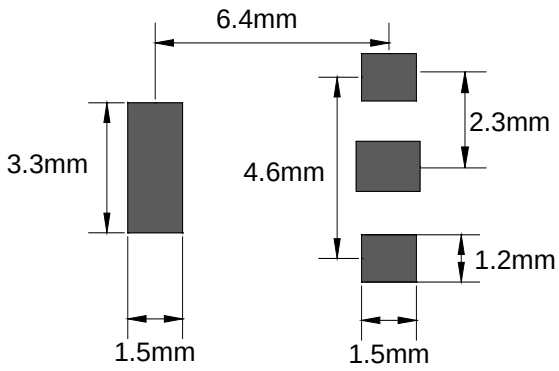
Package Dimensions

SOT-223



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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