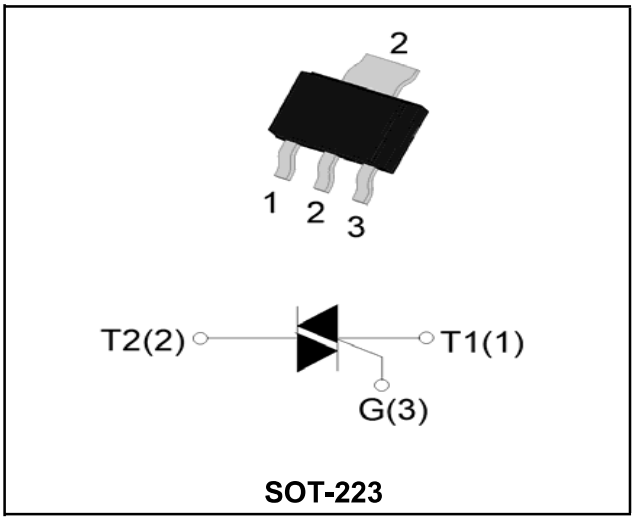
4.0A 4Quadrants TRIACs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	4.0	A
V_{DRM} V_{RRM}	600/800	V
V_{TM}	1.55	V



SOT-223

Features

With high ability to withstand the shock loading of large current,With high commutation performances, 4 quadrants products especially recommended for use on inductive load.

Application

Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

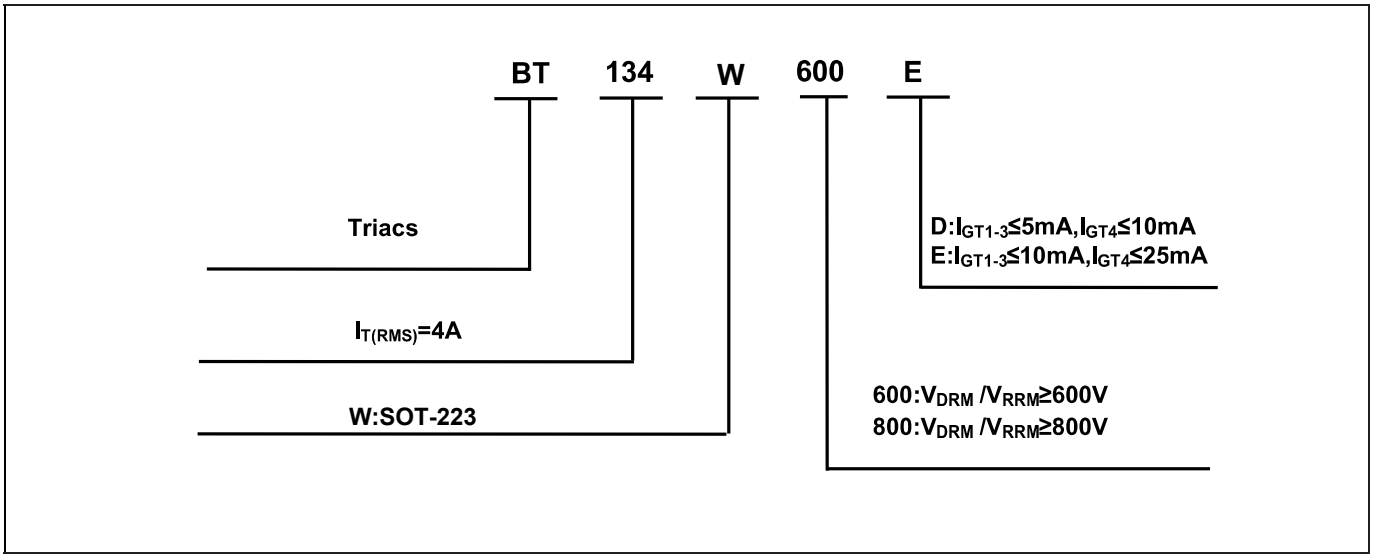
Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value		Unit
Repetitive peak off-state voltage	V_{DRM}	600/800		V
Repetitive peak reverse voltage	V_{RRM}	600/800		V
RMS on-state current	$I_{T(RMS)}$	4		A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	25		A
I^2t value for fusing (tp=10ms)	I^2t	3.1		A^2s
Critical rate of rise of on-state current (I_G =2 x I_{GT})	dI_T/dt	I - II - III	50	A/us
		IV	10	
Peak gate current	I_{GM}	2		A
Gate peak power	P_{GM}	5		W
Average gate power dissipation	$P_{G(AV)}$	0.5		W
Junction Temperature	T_J	-40 ~+125		°C
Storage Temperature	T_{STG}	-40 ~+150		°C

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

Parameter	Symbol	Test Condition		Value D	Value E	Unit
Gate trigger current	I_{GT}	V_D=12V I_T=0.1A Tj=25°C Fig.6	I - II -III	≤5	≤10	mA
			IV	≤10	≤25	
Gate trigger voltage	V_{GT}		I - II -III-IV	≤1.3		V
Gate non-trigger voltage	V_{GD}	V_D =V_{DRM},Tj=125°C		≥0.2		V
Holding current	I_H	V_D =12V I_{GT}=0.1A Tj=25°C Fig.6	I - II -III-IV	≤10	≤15	mA
latching current	I_L		I -III-IV	≤10	≤15	
			II	≤15	≤20	mA
Critical-rate of rise of commutation voltage	dV_D/dt	V_D=2/3V_{DRM} Gate Open Tj=125°C		≥10	≥20	V/us
STATIC CHARACTERISTICS						
Forward "on" voltage	V_{TM}	I_{TM}=6A,T_P=380us,Fig.4		≤1.55		V
Repetitive Peak Off-State Current	I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25°C	≤5	≤5	uA
Repetitive Peak Reverse Current	I_{RRM}		T_j=125°C	≤0.5	≤0.5	mA
THERMAL RESISTANCES						
Thermal resistance	Rth(j-c)	Junction to case(AC)		TYP.	23	°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

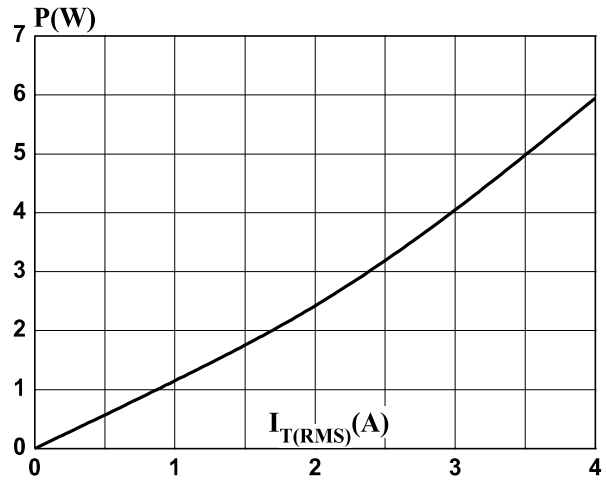


FIG2 RMS on-state current versus case temperature

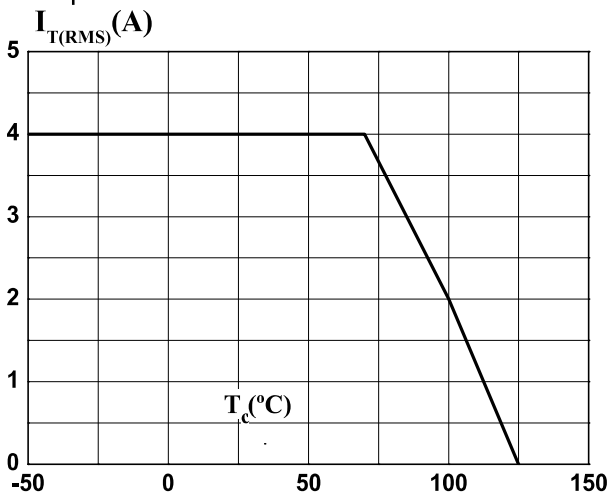


FIG3 Surge peak on-state current versus number of cycles

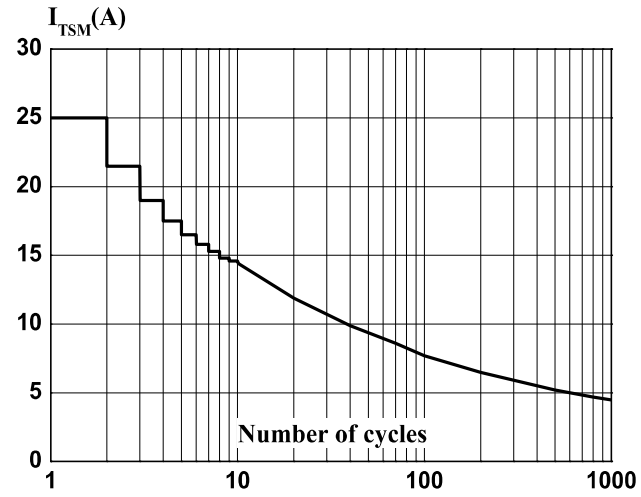


FIG4 On-state characteristics (maximum values)

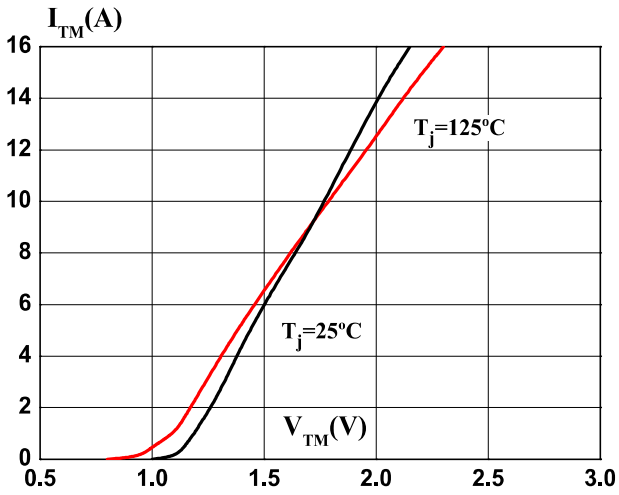


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

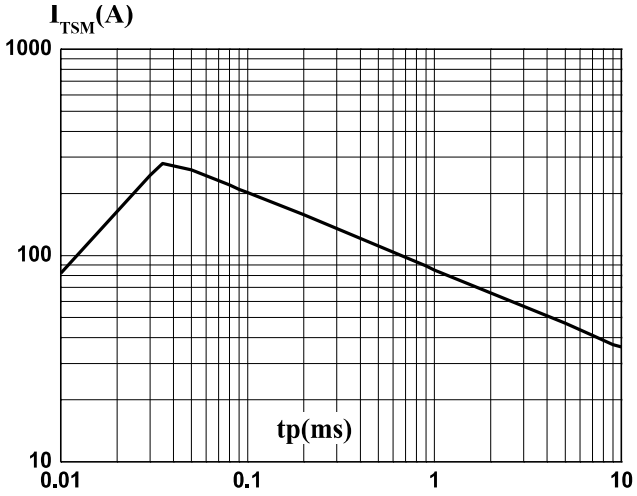
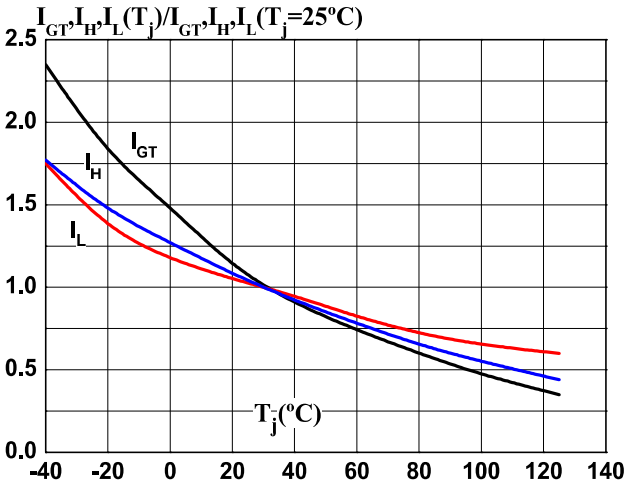


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature

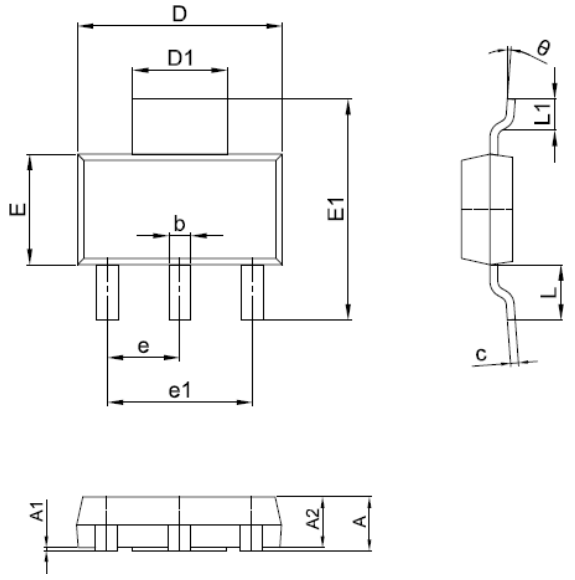


Ordering information

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

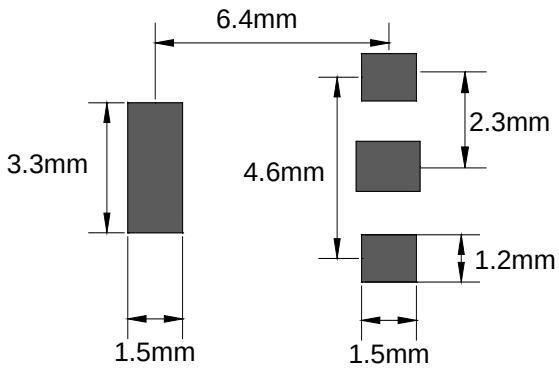
Package Dimensions

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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