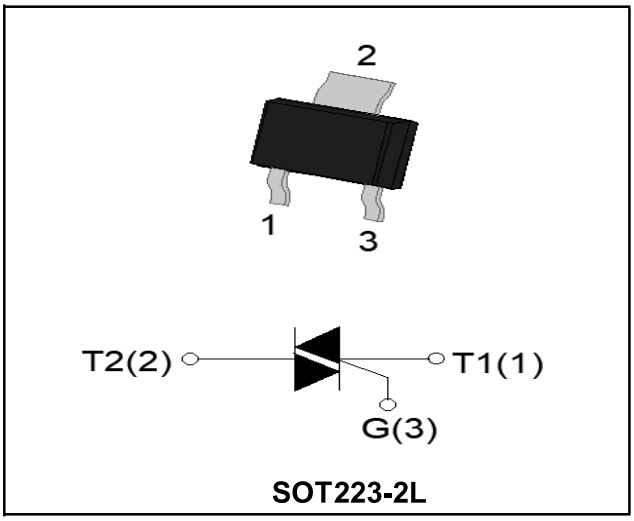
1A 4Quadrants TRIAC

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
V_{DRM} V_{RRM}	600/800	V
V_{TM}	1.55	V



SOT223-2L

FEATURES

- NPNPN five-layer structure silicon bidirectional device
- P-type counter-diffusion isolation
- Mesa glass passivation process
- Multi-layer metal back electrode
- RoHS compliant

APPLICATIONS

- Heating controllers
- Color lamp controllers
- Rice cookers
- Gas igniters
- electric fan speed regulators, etc.

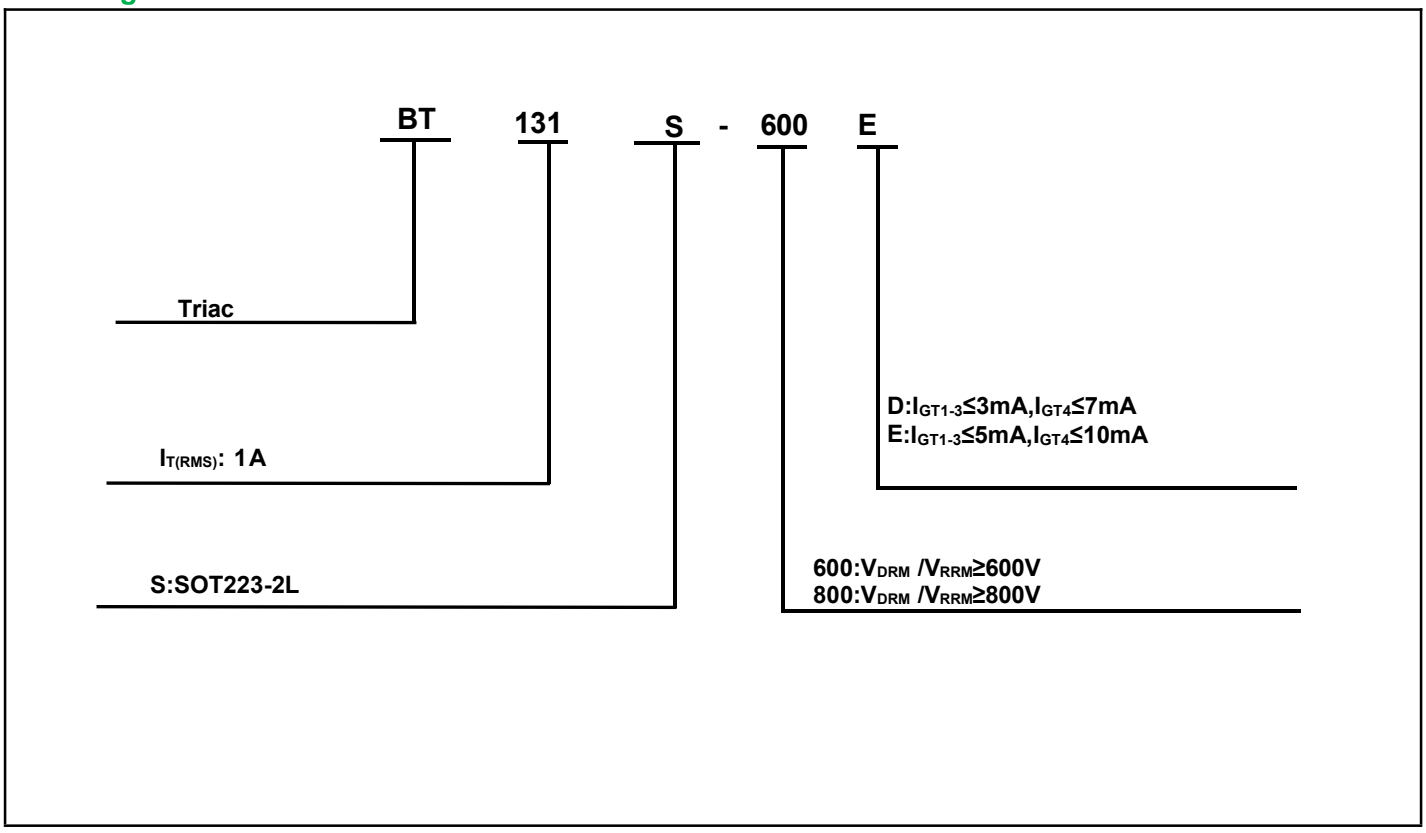
Absolute maximum ratings (Ta=25°C unless otherwise noted)

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	Tj(init)=25°C,tp=20ms;	I_{TSM}	16		A
I^2t value for fusing (tp=10ms)		I^2t	1.28		A^2s
Critical rate of rise of on-state current (I_G =2 x I_{GT})		dI/dt	I - II - III	50	A/μs
Peak gate current		I_{GM}	2		A
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 T_j=25°C	I-II-III	⩽3	⩽5	mA
			IV	⩽7	⩽10	mA
Gate trigger voltage	V_{GT}		I-II-III-IV	⩽1. 3		V
Non-triggering gate voltage	V_{GD}	V_D=V_{DRM}, T_j=125℃		⩾0. 2		V
Holding current	I_H	V_D=12V, I_{GT}=0.1A, T_j=25°C	I-II-III-IV	⩽5	⩽5	mA
Latching current	I_L		I-III-IV	⩽6	⩽10	mA
			II	⩽10	⩽15	
Critical-rate of rise of commutation voltage	dV/dt	V_D=67%V_{DRM},gate open Tj=125℃		⩾20	⩾50	V/μs
STATIC CHARACTERISTICS						
On-state Voltage	V_{TM}	I_{TM}=1.5A, t_p=380μs		≤1.55		V
Repetitive Peak Off-State Current	I_{DRM}	V_D=V_{DRM}= V_{RRM}	T_j=25℃	≤5	≤5	μA
Repetitive Peak Reverse Current	I_{RRM}		T_j=125℃	≤0.5	≤0.5	mA
THERMAL RESISTANCES						
Thermal Resistance	$R_{th\ (j-c)}$	Junction-to-Case (AC)		TYP.	23	℃/W
Thermal Resistance	$R_{th\ (j-a)}$	Junction-to-Ambient S=5cm²		TYP.	60	℃/W

Ordering Information



Typical Characteristics

FIG.1 Curve of Maximum Power Dissipation vs. RMS Current

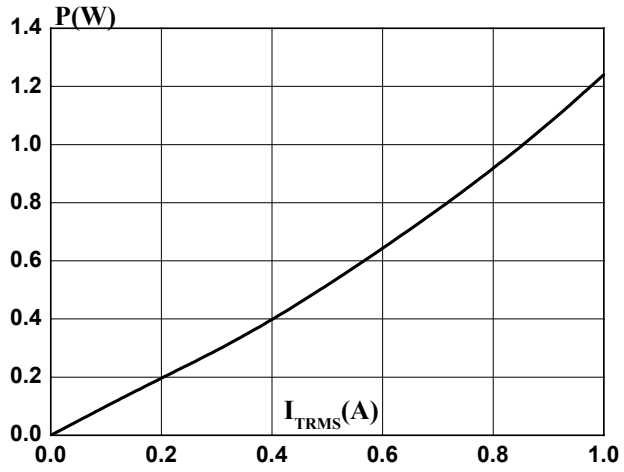


FIG.2: Curve of RMS Current vs. Case Temperature

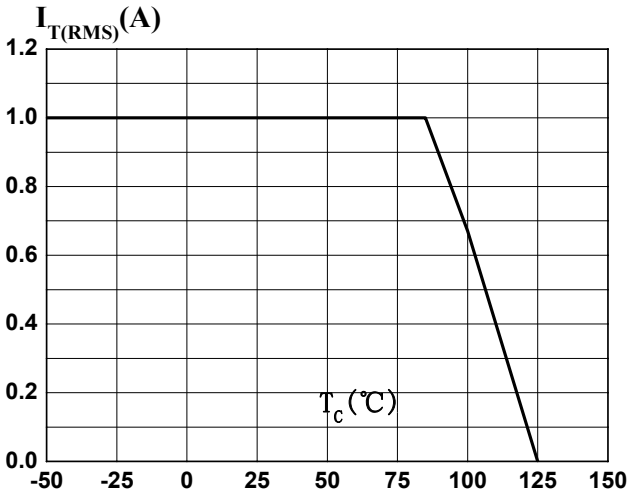


FIG.3: Peak Surge Current vs. Number of Cycles

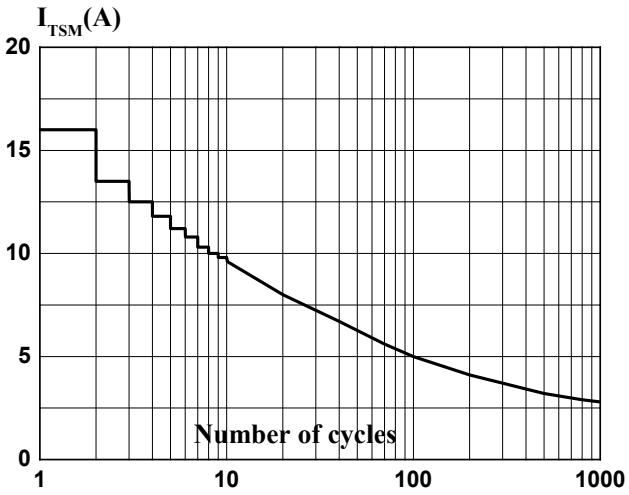


FIG.4: Output Characteristics (Maximum Rating)

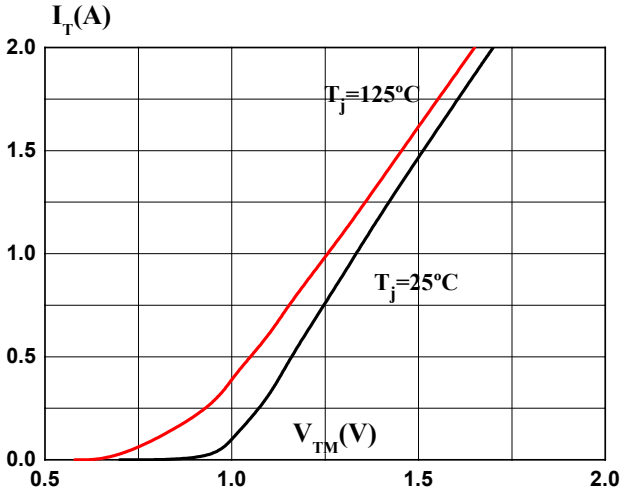


FIG.5: Non-repetitive Peak Surge Current vs. Sine Wave Pulse Width

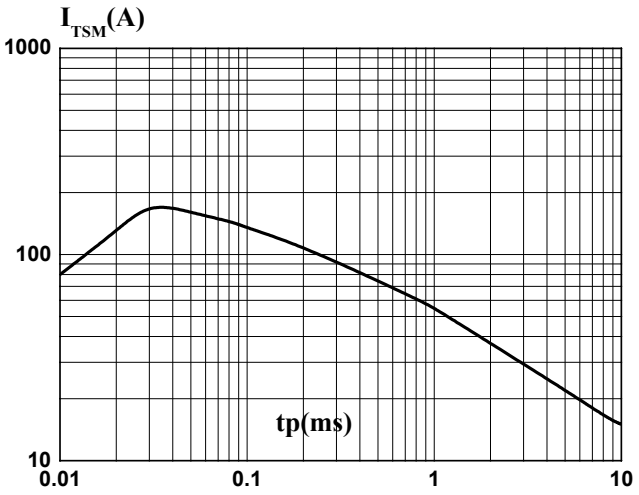
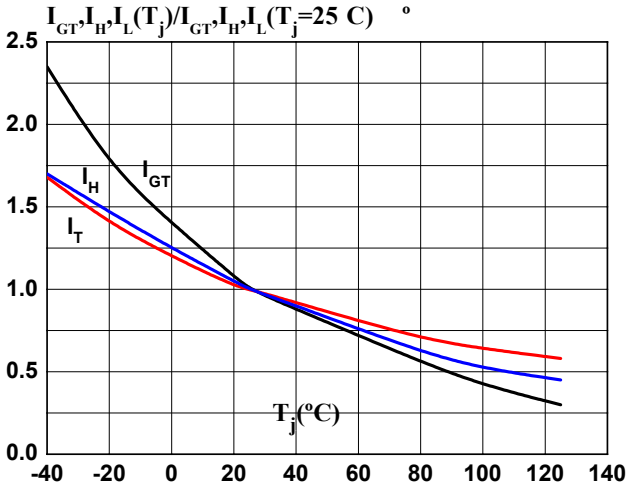


FIG.6: Gate Trigger Current, Holding Current and Latching Current vs. Junction Temperature

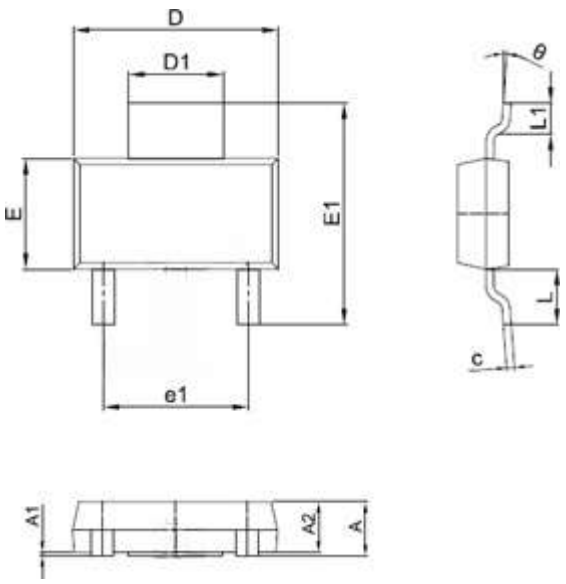


Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT223-2L	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel,13"reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

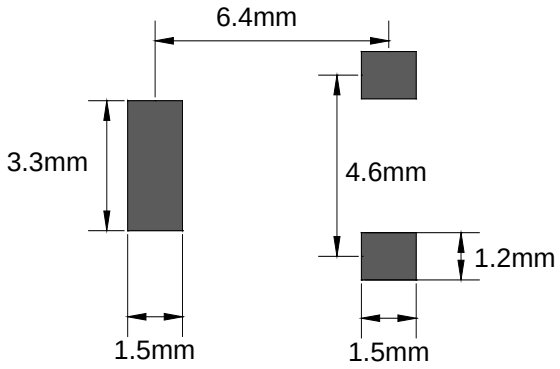
Package Dimensions

SOT223-2L



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
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
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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