

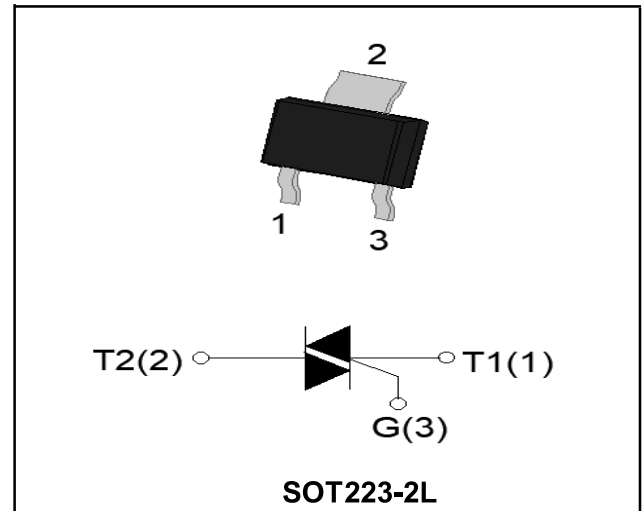
1.0A 4Quadrants TRIACs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	1.0	A
$V_{DRM} V_{RRM}$	600/800	V
V_{TM}	1.55	V

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	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	16	A
I^2t value for fusing (tp=10ms)	I^2t	1.28	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	I - II - III	50
		IV	10
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 (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition		Value		Unit
				Min	Max	
Gate trigger current	I_{GT}	$V_D=12V$ $I_T=0.1A$ $T_j=25^{\circ}C$	I - II -III	-	5	mA
			IV	-	10	
Gate trigger voltage	V_{GT}		I - II -III-IV	-	1.3	V
Gate non-trigger voltage	V_{GD}	$V_D = V_{DRM}$ $T_j=125^{\circ}C$		0.2	-	V
latching current	I_L	$V_D = 12V$ $I_{GT}=0.1A$ $T_j=25^{\circ}C$	I -III-IV	-	10	mA
			II	-	15	
Holding current	I_H		I - II -III-IV	-	5	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}C$		50	-	V/us

STATIC CHARACTERISTICS

Forward "on" voltage	V_{TM}	I _{TM} = 1.5A tp=380ps		-	1.55	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 =125°C	-	100	UA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case(AC)	TYP.	23	°C/W
	$R_{th(j-a)}$	Junction to ambient	TYP.	60	°C/W

Ordering Information

BT	131	W	-	600
Triacs				
$I_{T(RMS)}=1A$				
W:SOT223-2L				
				600: $V_{DRM}/V_{RRM} \geq 600V$ 800: $V_{DRM}/V_{RRM} \geq 800V$

Typical Characteristics

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

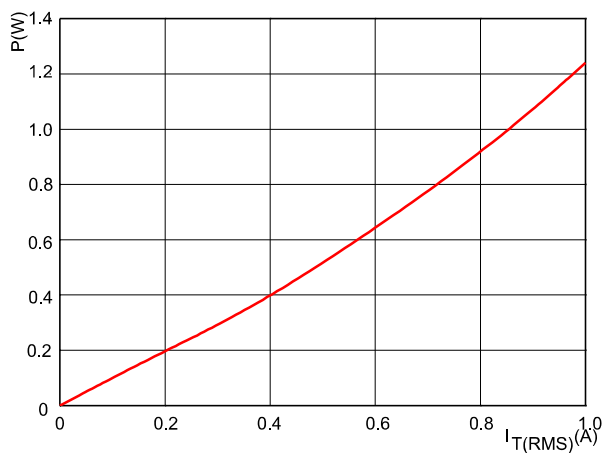


FIG.2: RMS on-state current versus case temperature (full cycle)

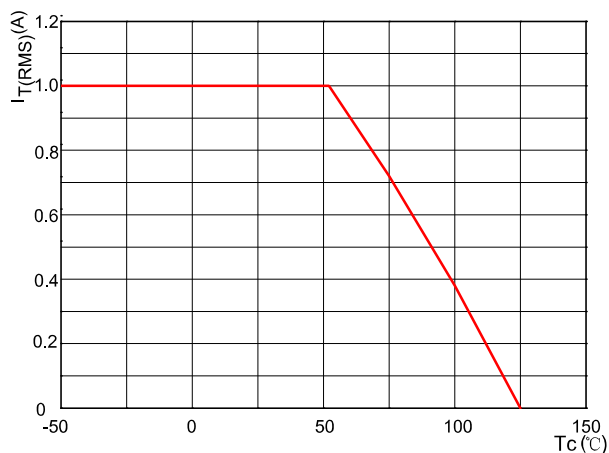


FIG.3: Surge peak on-state current versus number of cycles

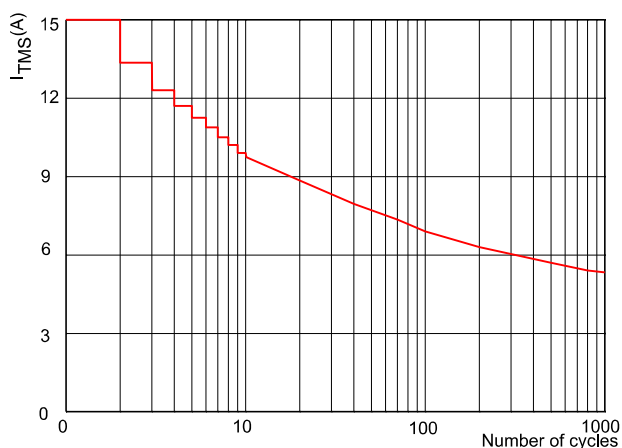


FIG.4: On-state characteristics (maximum values)

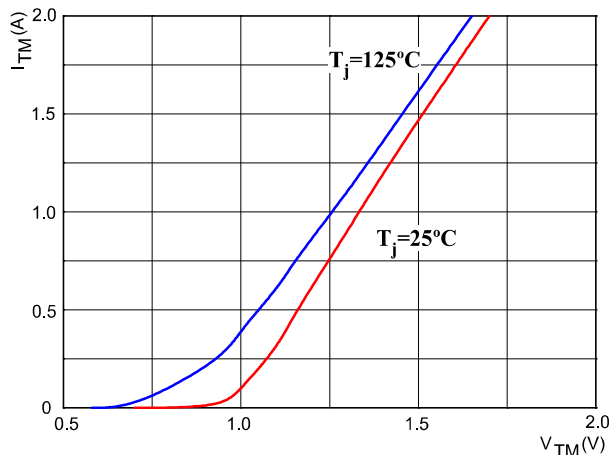


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$

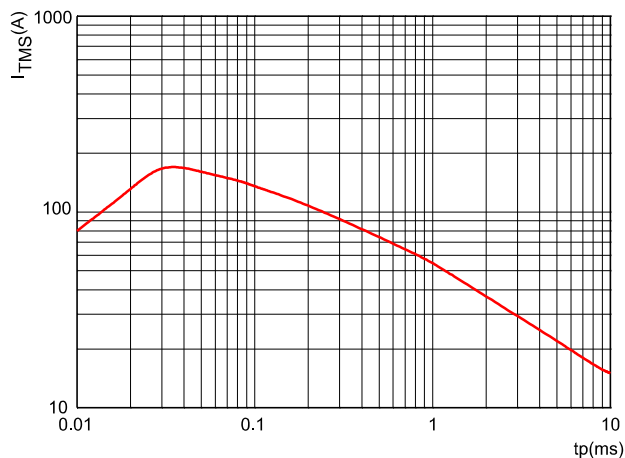
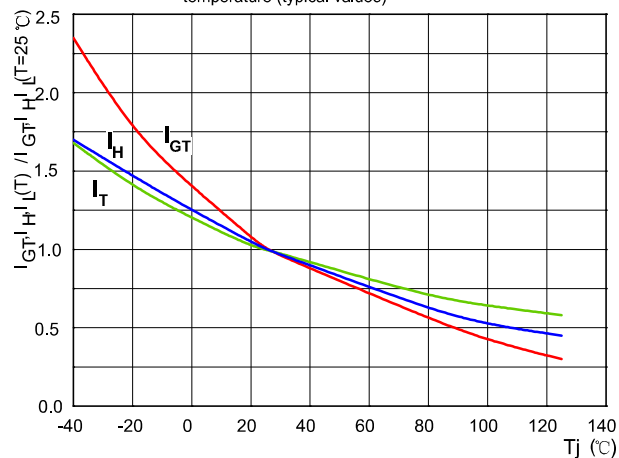


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering information

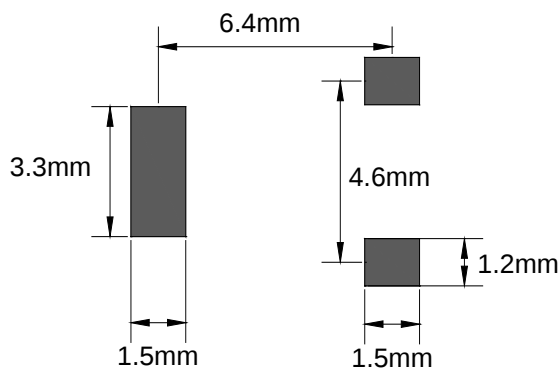
Package	Packing Description	Base Quantity	Packing Quantity
SOT223-2L	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel, 13" reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

Package Dimensions

SOT223-2L

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
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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