

Product Summary

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

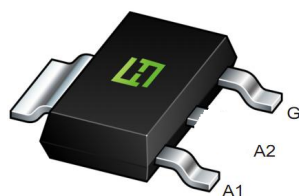
Feature

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

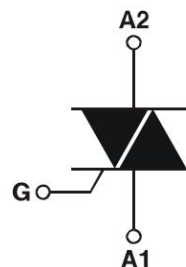
Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

Package

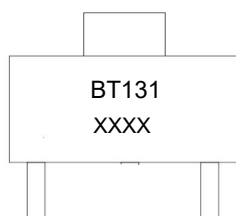


SOT-223-2L

Circuit diagram



Marking



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
Gate trigger current	I _{GT}	V _D =12V I _T = 0.1A T _j =25°C	I - II -III	MAX.	5	mA
			IV		10	
Gate trigger voltage	V _{GT}		I - II -III-IV	MAX.	1.3	V
Gate non-trigger voltage	V _{GD}	V _D =V _{DRM} T _j =125°C		MIN.	0.2	V
latching current	I _L	V _D =12V I _{GT} = 0.1A T _j =25°C	I -III-IV	MAX.	10	mA
			II		15	
Holding current	I _H		I - II -III-IV	MAX.	5	mA
Critical-rate of rise of commutation voltage	dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		MIN.	50	V/μs
STATIC CHARACTERISTICS						
Forward "on" voltage	V _{TM}	I _{TM} =1.5A tp=380μs		MAX.	1.55	V
Repetitive Peak Off-State Current	I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	MAX.	5	μA
Repetitive Peak Reverse Current	I _{RRM}		T _j =125°C	MAX.	100	μA
THERMAL RESISTANCES						
Thermal resistance	Rth(j-c)	Junction to case(AC)		TYP.	23	°C/W
	Rth(j-a)	Junction to ambient		TYP.	60	°C/W

Typical Characteristics

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

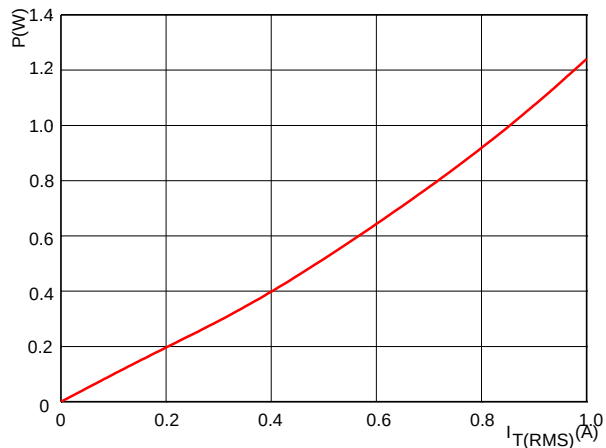


FIG.2: RMS on-state current versus case temperature (full cycle)

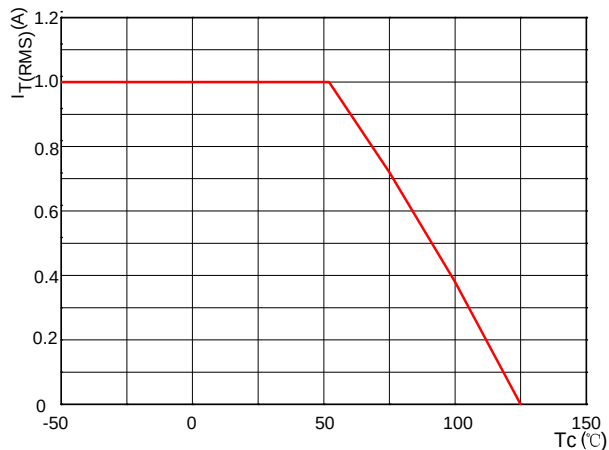


FIG.3: Surge peak on-state current versus number of cycles

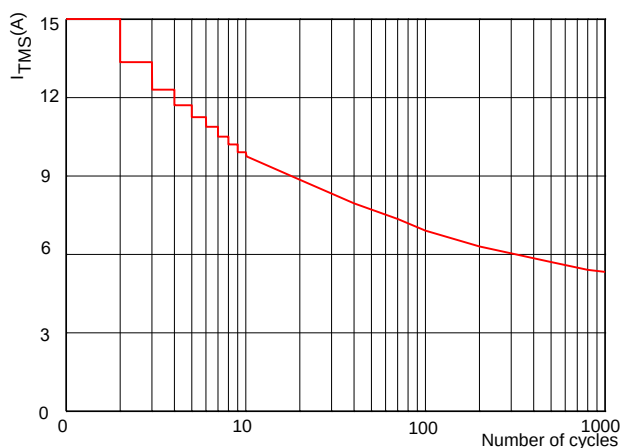


FIG.4: On-state characteristics (maximum values)

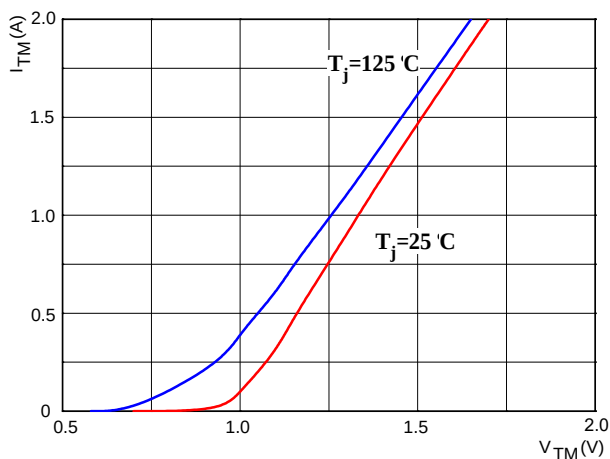


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

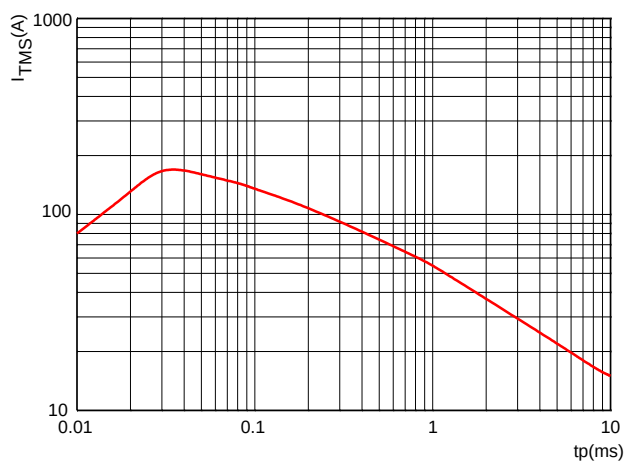
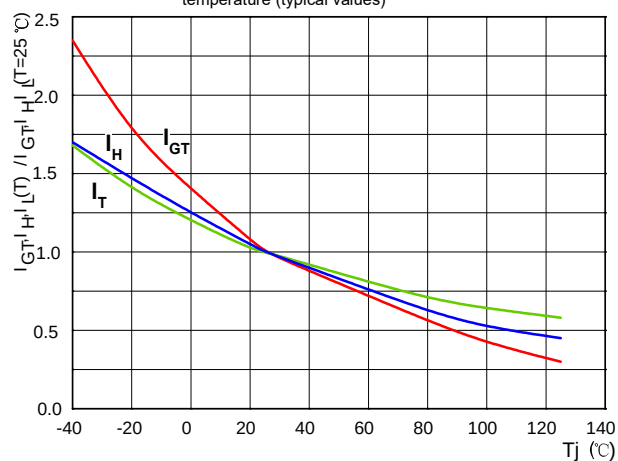


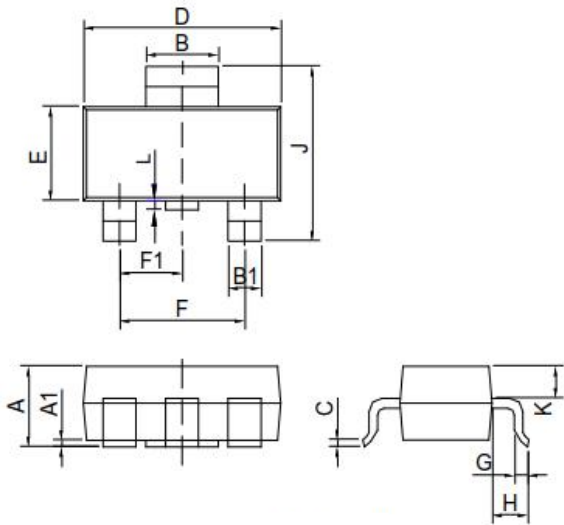
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering Information

		BT	131	W	—	600
		Triacs				
		$I_{T(RMS)}: 1A$				
		W:SOT-223-2L				
				600: $V_{DRM}/V_{RRM} \geq 600V$		
				800: $V_{DRM}/V_{RRM} \geq 800V$		

SOT-223-2L Package Information

		Dimensions					
		Millimeters			Inches		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Ref.							
A		1.5	1.6	1.8	0.059	0.063	0.071
A1		0.01	0.06	0.10	0.001	0.002	0.004
B		2.9	3.0	3.1	0.114	0.118	0.122
B1		0.6	0.7	0.8	0.024	0.028	0.031
C		0.22	0.26	0.32	0.009	0.010	0.013
D		6.3	6.5	6.7	0.248	0.256	0.264
E		3.3	3.5	3.7	0.130	0.138	0.146
F			4.6			0.181	
F1			2.3			0.091	
G		0.7	0.9	1.1	0.028	0.035	0.043
H		1.5	1.75	2	0.059	0.069	0.079
J		6.7	7.0	7.3	0.264	0.276	0.287
K			0.9			0.035	
L		0	0.1	0.2	0	0.004	0.008