

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
$V_{DRM} V_{RRM}$	600 / 800	V
V_{TM}	1.55	V

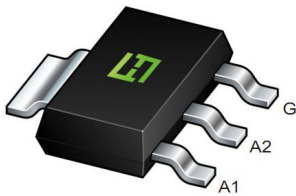
Feature

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

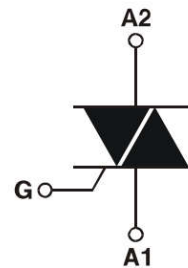
Heating controller; Motor speed controller; Mahjong machine; Blender; Hair straightener; Household appliances like toasters...

Package

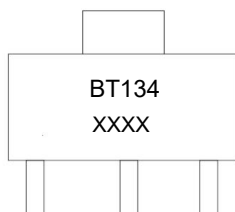


SOT-223-3L

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)}	2	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I _{TSM}	20	A
I ² t value for fusing (tp=10ms)	I ² t	0.72	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})	dl _T /dt	20	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	Unit	
			E		
Gate trigger current	I _{GT}	V _D =12V, R _L =30Ω, T _J =25°C	I - II -III	≤5	mA
			IV	≤10	
Gate trigger voltage	V _{GT}		ALL	≤1.3	V
Gate non-trigger voltage	V _{GD}	V _D =V _{DRM} T _J =125°C		≥0.2	V
latching current	I _L	I _G =1.2I _{GT}	I -III	≤5	mA
			II -IV	≤10	
Holding current	I _H	I _T =200mA		≤5	mA
Critical-rate of rise of commutation voltage	dV _D /dt	V _D =2/3V _{DRM} Gate Open T _J =125°C		≥15	V/μs
STATIC CHARACTERISTICS					
Forward "on" voltage	V _{TM}	I _{TM} =1.4A 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
Repetitive Peak Reverse Current	I _{RRM}		T _J =125°C	MAX.	0.5
THERMAL RESISTANCES					
Thermal resistance	R _{th(j-c)}	Junction to case(AC)	TYP.	31	°C/W

Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current

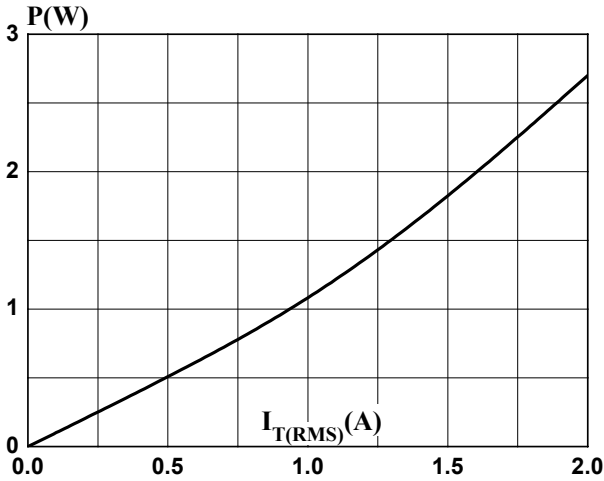


FIG.2: RMS on-state current versus case temperature

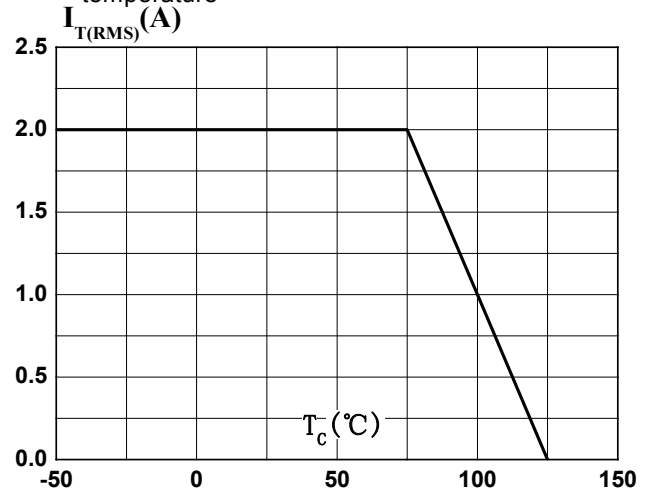


FIG.3: Surge peak on-state current versus number of cycles

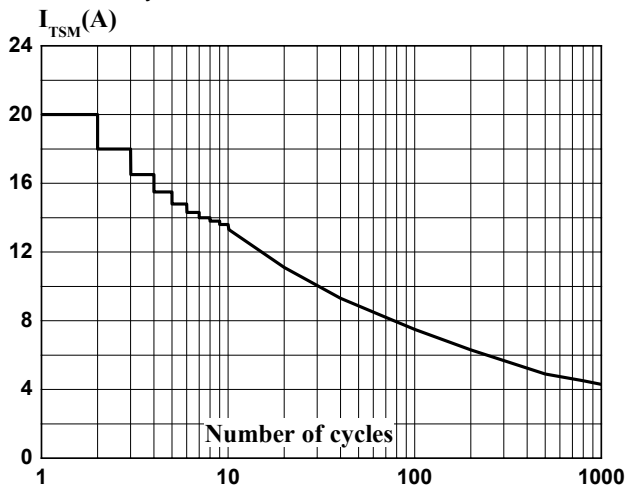


FIG.4: On-state characteristics (maximum values)

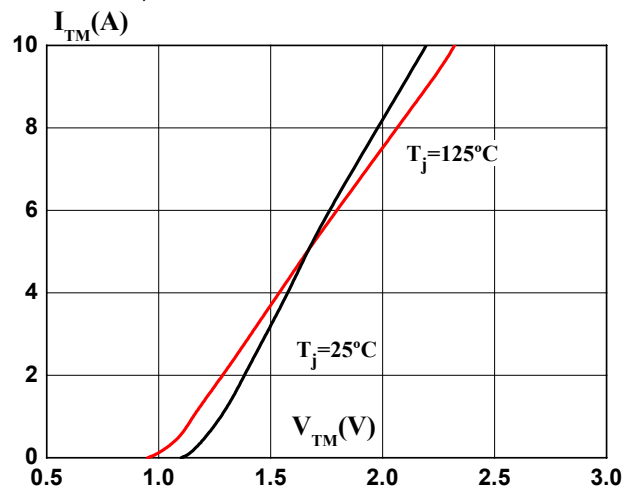


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 20\text{A}/\mu\text{s}$)

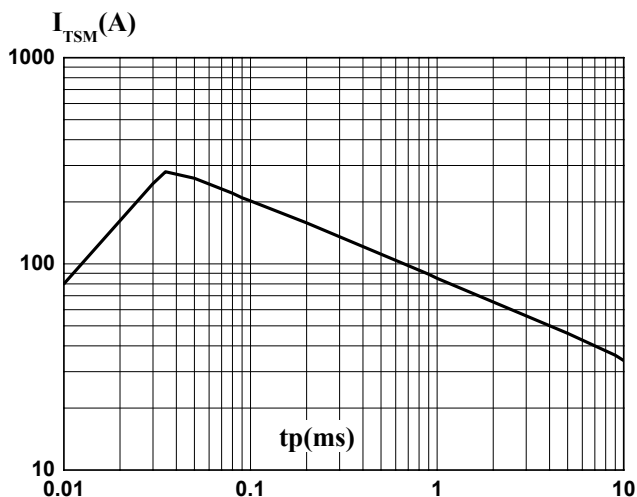
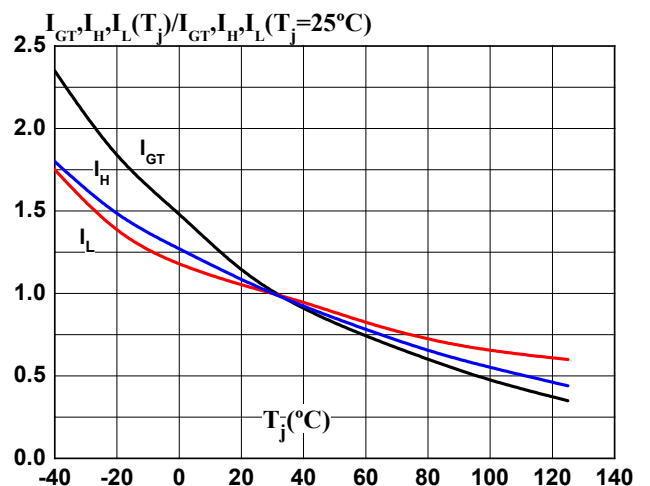
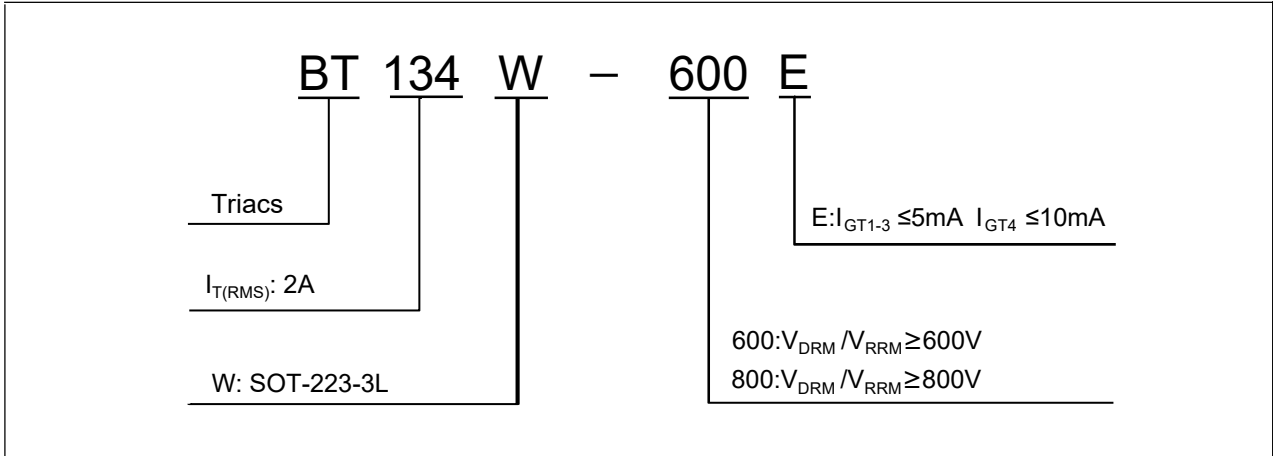


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Ordering Information



SOT-223-3L Package Information

