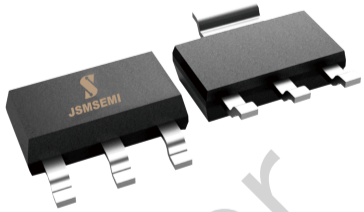
DESCRIPTION:

The BT134W-800 triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Package SOT-223 is RoHS compliant.



MAIN FEATURES

Symbol	800D	800E	Unit
$I_{T(RMS)}$	1		A
V_{DRM} /V_{RRM}	800		V
$I_{GT\ I/II/III/IV}$	5/5/5/10	10/10/10/25	mA

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40-150	℃
Operating junction temperature range		T_j	-40-125	℃
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	800	V
RMS on-state current (T_C≤104℃)		$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25℃)		I_{TSM}	20	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25℃)			22	
I^2t value for fusing (t_p=10ms , T_j=25℃)		I^2t	2	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT} , f=100Hz , T_j=125℃)	I - II -III	dI/dt	50	A/μs
	IV		30	
Peak gate current (t_p=20μs , T_j=125℃)		I_{GM}	2	A
Average gate power dissipation (T_j=125℃)		$P_{G(AV)}$	0.5	W
Peak gate power		P_{GM}	5	W
Peak pulse voltage (T_j=25℃; non-repetitive,off-state;FIG.8)		V_{pp}	4.2	kV

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	800D	800E	Unit
I_{GT}	V_D=12V R_L=33Ω	Ⅰ - Ⅱ -Ⅲ	MAX.	5	10	mA
		Ⅳ		10	25	
V_{GT}		ALL	MAX.	1.3		V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	ALL	MIN.	0.2		V
I_L	I_G=1.2I_{GT}	Ⅰ -Ⅲ-Ⅳ	MAX.	10	15	mA
		Ⅱ		20	25	
I_H	I_T=100mA		MAX.	7	20	mA
dV/dt	V_D=540V Gate Open T_j=110℃		MIN.	100	250	V/μs
(dV/dt)c	(dI/dt)c=1.8A/ms, T_j=110℃		MIN.	2.5	6	V/μs
t_{on}	I_G=20mA I_A=200mA I_R=20mA T_j=25℃		TYP.	2.5		μs
t_{off}				25		

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=5A t_p=380μs	T_j=25℃	1.55	V
V_{TO}	Threshold voltage	T_j=125℃	0.92	V
R_D	Dynamic resistance	T_j=125℃	107	mΩ
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	0.35	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	18	℃/W
$R_{th(j-a)}$	junction to ambient (AC)	150	℃/W

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

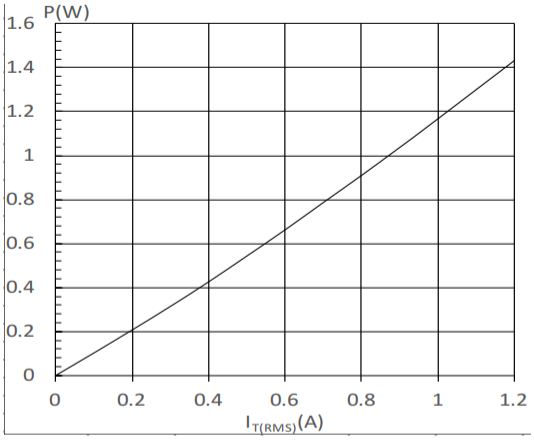


FIG.2: RMS on-state current versus case temperature

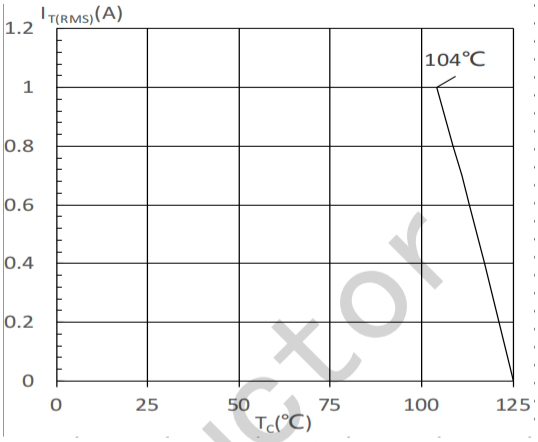


FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35μm) (full cycle)

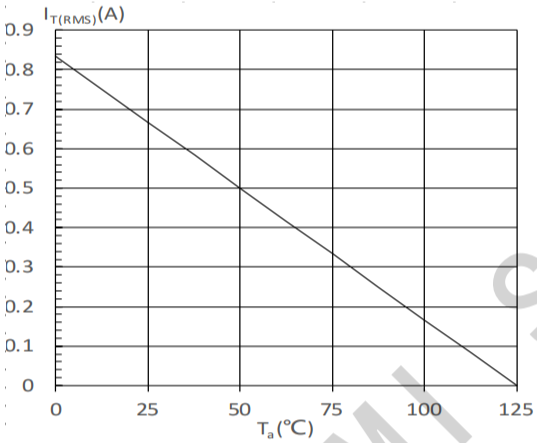


FIG.4: Surge peak on-state current versus number of cycles

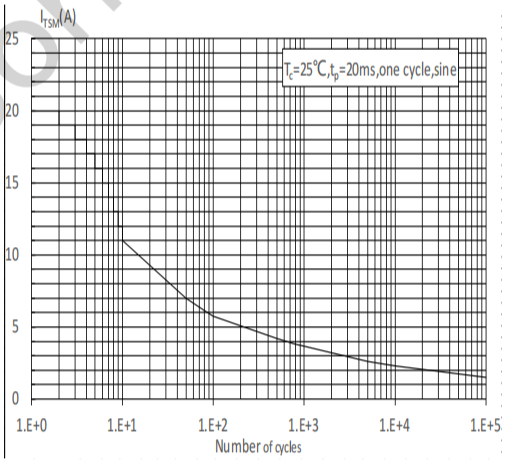


FIG.5: On-state characteristics

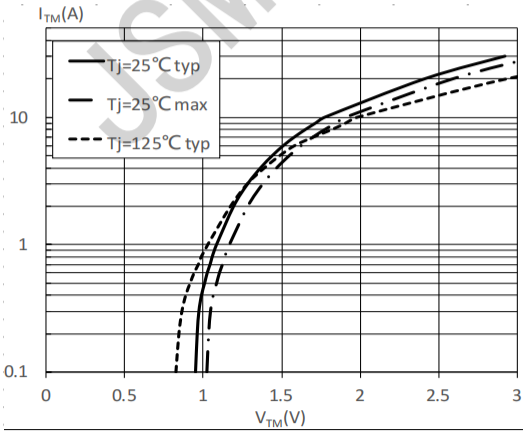


FIG.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width t_p<20ms, and corresponding value of I^2t (Ⅰ-Ⅱ-Ⅲ: dI/dt<50A/μs;Ⅳ: dI/dt<30A/μs)

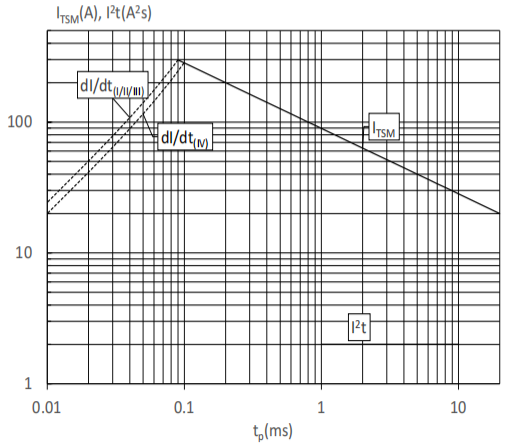


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

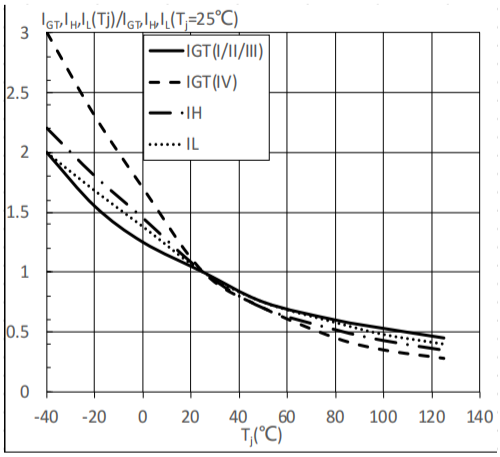
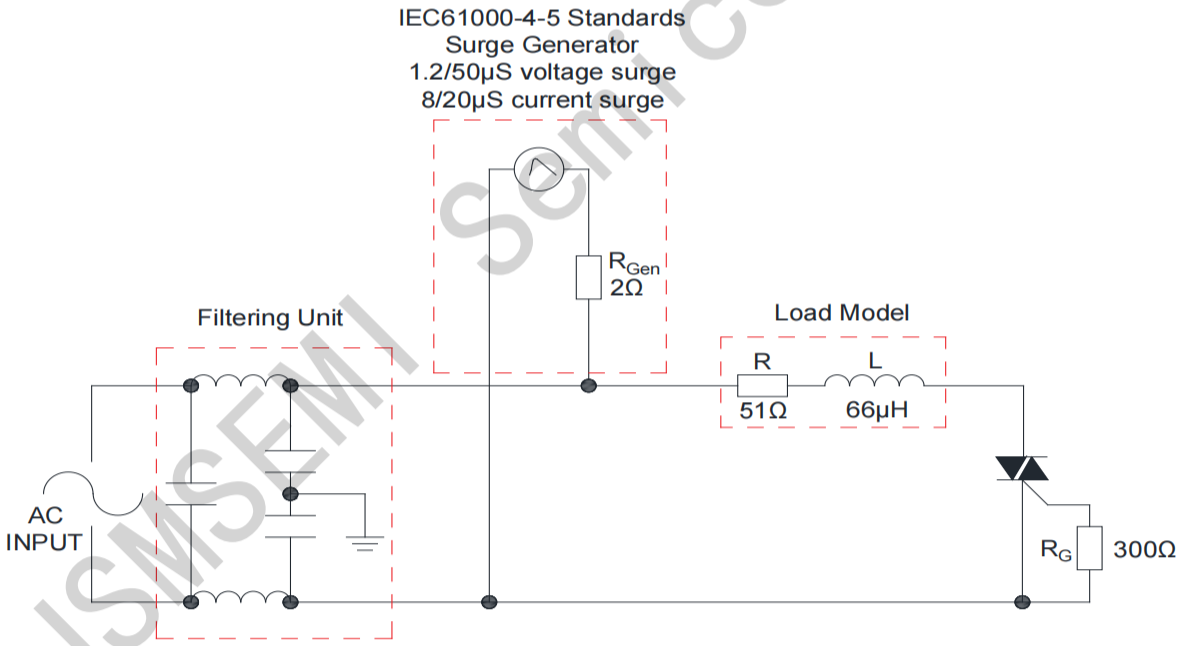


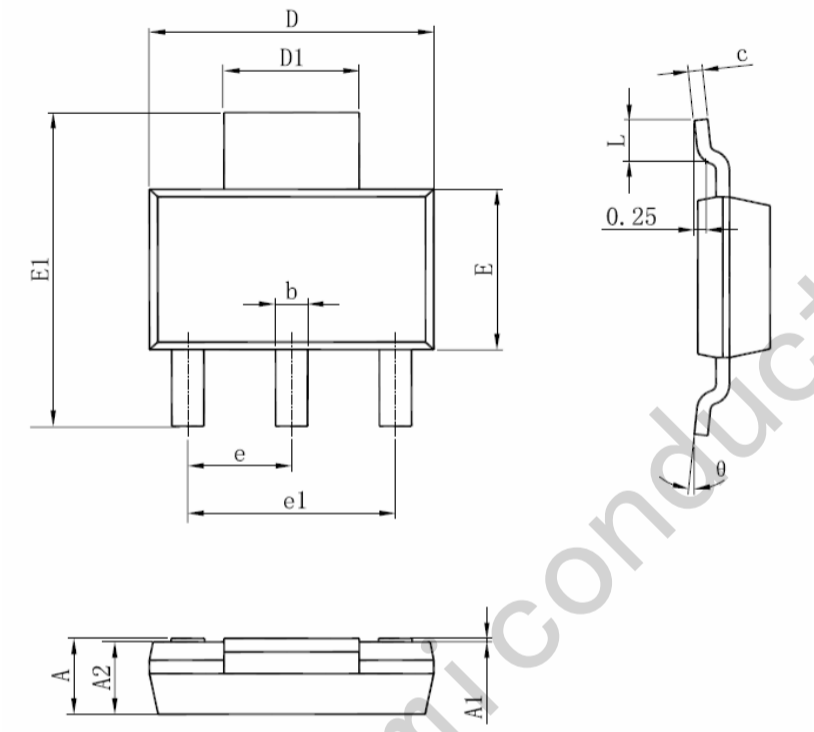
FIG.8：Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		I - II - III	IV			
BT134W-800D	800	5	10	SOT-223	2,500	Tape & Reel
BT134W-800E		10	25			

SOT-223 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°