BT131-800D 1A TRIAC

Rev.A.1.1

DESCRIPTION:

The BT131-800D 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-89-2L is RoHS compliant.

MAIN FEATURES

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

ELECTRICAL CHARACTERISTICS (T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D=12V R_L=33	- -	MAX.	5	mA
				10	
V_{GT}		ALL	MAX.	1.3	V
V_{GD}	V_D=V_{DRM} T_j=125 R_L=3.3k	ALL	MIN.	0.2	V
I_L	I_G=1.2I_{GT}	- -	MAX.	10	mA
				20	
I_H	I_T=50mA		MAX.	7	mA
dV/dt	V_D=540V Gate Open T_j=110		MIN.	50	V s
(dV/dt)c	(dI/dt)c=0.3A/ms, T_j=110		MIN.	5	9 V
t_{on}	I_G=20mA I_A=200mA I_R=20mA T_j=25		TYP.	2.5	s
t_{off}				25	

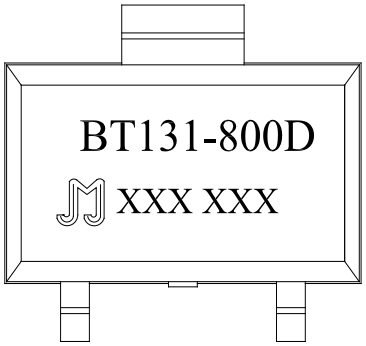
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=1A t_p=380 s	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	1.01	V
R_D	Dynamic resistance	T_j=125	316	P
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25	5	A
I_{RRM}		T_j=125	0.25	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	55	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, S=5cm^2)	100	/W

MARKING



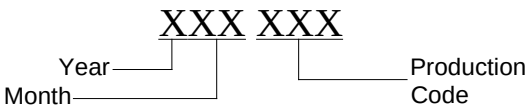


FIG.1: Maximum power dissipation versus RMS on-state current

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

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

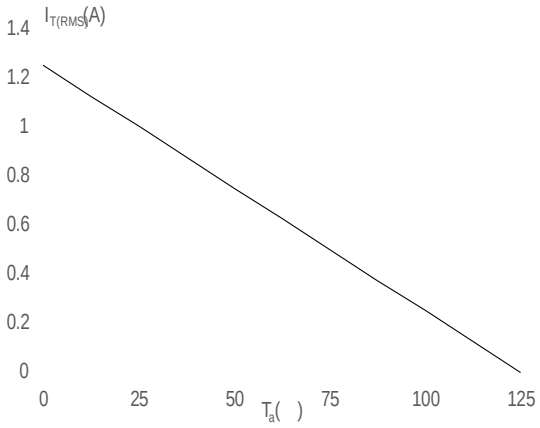


FIG.4: Surge peak on-state current versus number of cycles

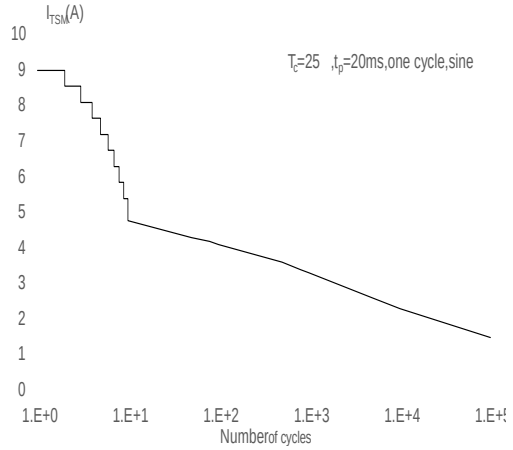


FIG.5: On-state characteristics

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

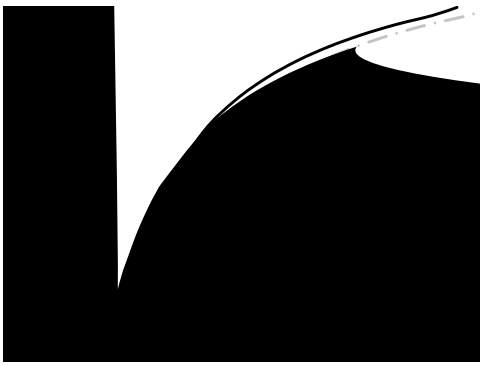
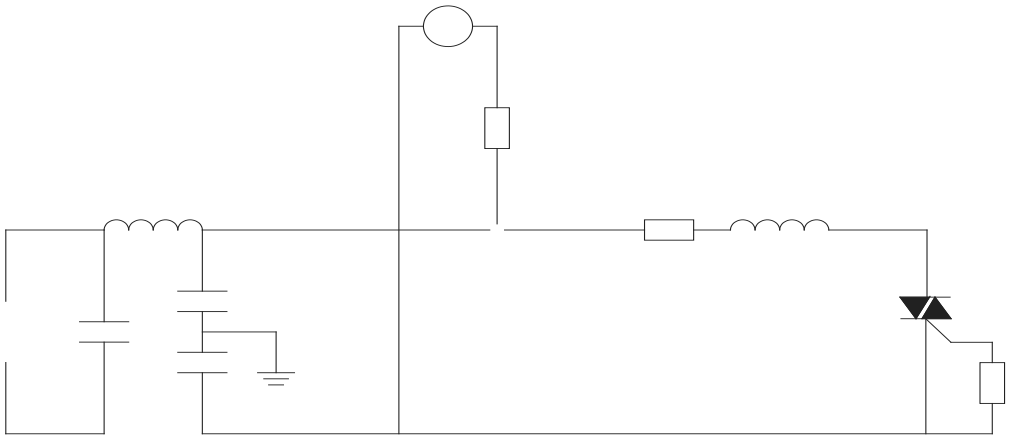
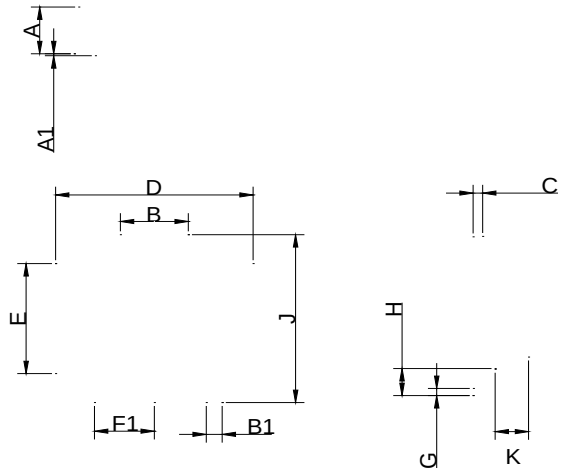


FIG.8 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards



PACKAGE MECHANICAL DATA



DELIVERY MODE

	Dimensions						
	Ref.	Millimeters			Inches		
		Min.	Typ.	Max.	Min.	Typ.	Max.
	E	1.65	1.75	1.85			
	F	5.45	5.50	5.55			
	P2	1.90	2.00	2.10			
	D	-	1.50	1.60			
	D1	1.50					
	P0	3.90	4.00	4.10			
-	10P0	39.80	40.00	40.20			
	W						
	P						
	A0						
	B0						
	K0						
	t						

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