



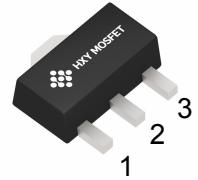
Features

- Blocking voltage to 800 V
- RMS on-state current to 1 A
- General purpose bidirectional switching

1. ANODE

2. ANODE

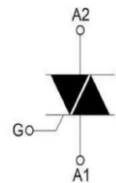
3. GATE



SOT-89

Package Marking and Ordering Information

Product ID	Pack	Packing Method	Qty(PCS)
BT131-800D	SOT-89	Tape and Reel	3000



Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Value	Unit
V_{DRM} / V_{RRM}	repetitive peak off-state voltage		800	V
$I_{T(RMS)}$	RMS on-state current		1	A
I_{TSM}	Non repetitive surge peak on-state current	$t = 20ms \ T_j = 25^\circ C$	10	A
		$t = 16.7ms \ T_j = 25^\circ C$	8	
$I^2 t$	$I^2 t$ for fusing	$t = 10 \ ms$	1	$A^2 s$
di/dt	Critical-rate of rise of commutation current	I II III IV $I_G = 2I_{GT} tr \leq 100ns$ $F = 120Hz$	50 10	A/us
I_{GM}	Peak Gate Current	$T_j = 125^\circ C \ t_p = 20\mu s$	0.3	A
V_{GM}	Peak gate voltage	$T_j = 125^\circ C$	1	V
P_{GM}	Peak gate power	$T_j = 125^\circ C$	0.8	W
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125^\circ C$	0.4	W
T_j	Junction Temperature	-	-40 ~ 125	°C
T_{stg}	Storage Temperature	-	-40 ~ 150	°C

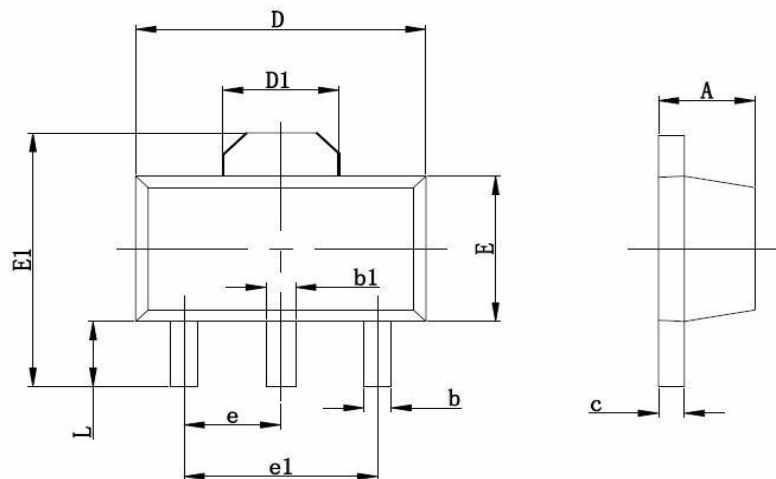


Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter		Symbol	Test conditions		Min	Typ	Max	Unit
Repetitive Peak Off-State Current Repetitive Peak Reverse Current		I _{DRM} ,I _{RRM}	V _{DRM} = V _{RRM} T _j =25 °C				5	μA
			V _{DRM} = V _{RRM} T _j =125 °C				1	mA
Gate non-trigger voltage		V _{GD}	V _D = 1/2V _{DRM}		0.2			V
On-state voltage		V _{TM}	I _T =0.8A,t _p =380us				1.65	V
Gate trigger current	I	I _{GT}	T ₂ (+), G(+)	V _D =12V R _L =100Ω			3	mA
	II		T ₂ (+), G(-)				6	
	III		T ₂ (-), G(-)				4	
	IV		T ₂ (-), G(+)				8	
Gate trigger voltage	I	V _{GT}	T ₂ (+), G(+)	V _D =12V R _L =100Ω		0.8	2	V
	II		T ₂ (+), G(-)			0.8	2	
	III		T ₂ (-), G(-)			0.8	2	
	IV		T ₂ (-), G(+)			0.8	2.5	
Holding current		I _H	V _D =12V ,I _{GT} =100mA				30	mA
Critical-rate of rise of commutation voltage		dV/dt	V _{DM} =67%V _{DRM} Gate open T _j =125 °C				50	V/us
Rate of change of commutating voltage		(dI/dt) _c	V _{DM} =400V T _j =125 °C (dI/dt) _c =5.4A/ms Gate open				20	V/us
Turn-on time		t _{gt}	I _{TM} =16A ,V _{DM} =V _{DRM(MAX)} I _G =0.1A,dI _G dt=5A uS				2	us



SOT-89 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



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