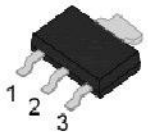
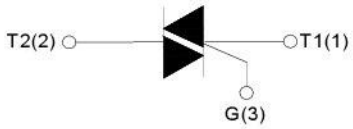
BT131 DESCRIPTION:

With low holding and latching current, BT131 series triacs are especially recommended for use on middle and small resistance type power load.



SOT-89



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
I_{TSM}	16	A
V_{TM}	≤1.5	V

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}	600/800	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	600/800	V
Non repetitive surge peak off-state voltage		V_{DSM}	V_{DRM} + 100	V
Non repetitive peak reverse voltage		V_{RSM}	V_{RRM} + 100	V
RMS on-state current	TO-92 (T_C=51℃)	$I_{T(RMS)}$	1	A
	SOT-89/ SOT-223/ SOT-89-2L/ SOT-223-2L (T_C=70℃)			
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^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})		dI/dt	20	A/μs

Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T	D	
I_{GT}	V_D=12V R_L=33Ω	I - II -III	MAX	5	5	mA
		IV		5	10	
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	MAX	5	5	mA
		II - IV		10	20	
I_H	I_T=200mA		MAX	5	7	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j=125℃		MIN	15	50	V/μs

STATIC CHARACTERISTICS

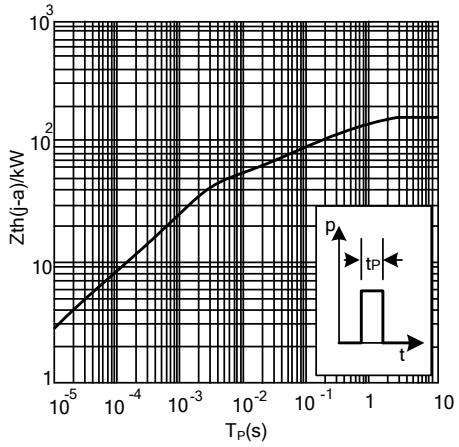
Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM}=1.4A tp=380μs	T_j=25℃	1.5	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	500	μA

THERMAL RESISTANCES

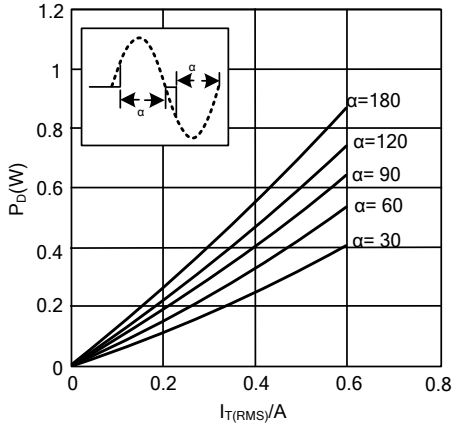
Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	℃/W
		SOT-89/SOT-223/ SOT-89-2L/ SOT-223-2L	31	

■ TYPICAL CHARACTERISTICS

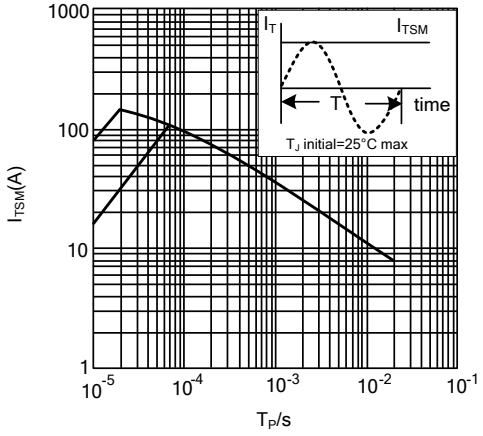
Transient Thermal Impedance From Junction to Ambient as a Function of Pulse Duration.



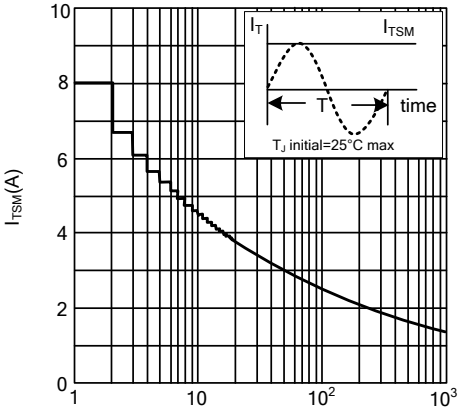
Maximum On-State Dissipation as a Function of RMS On-State Current; Typical Values. α=Conduction Angle.



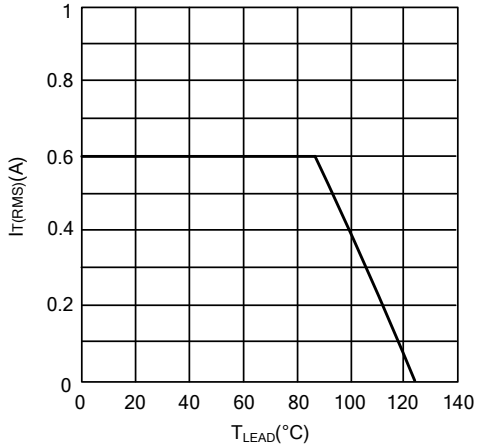
Maximum Permissible Non-Repetitive Peak on-State Current as a Function of Pulse Width for Sinusoidal Currents;Tyical Values. t_P 20ms.



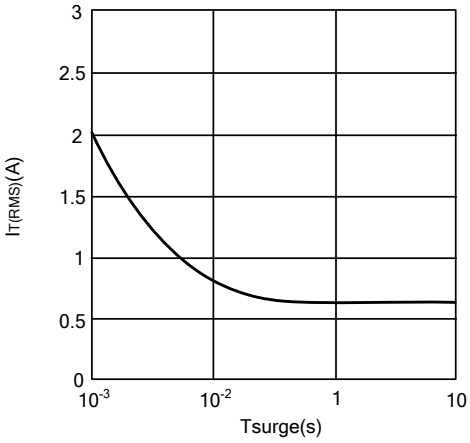
Maximum Permissible Non-Repetitive Peak On-State Current as a Function of Number of Cycles for Sinusoidal Currents; Typical Values . n=Number of Cycles at f=50Hz.



Maximum Permissible RMS Current as a Function of Lead Temperature; Typical Values.

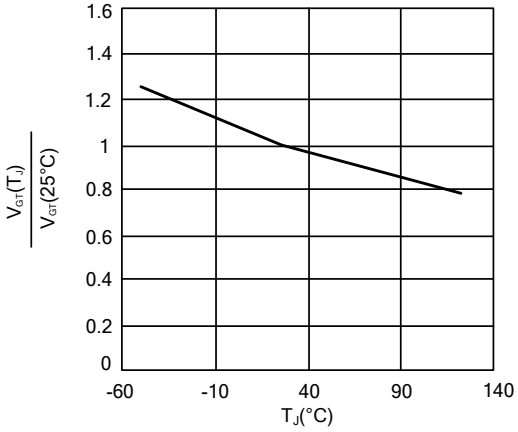


Maximum Permissible Repetitive RMS On-State Current as a Function of Surge Duration for Sinusoidal Currents; Typical Values. f=50Hz; T_{LEAD} 50°C

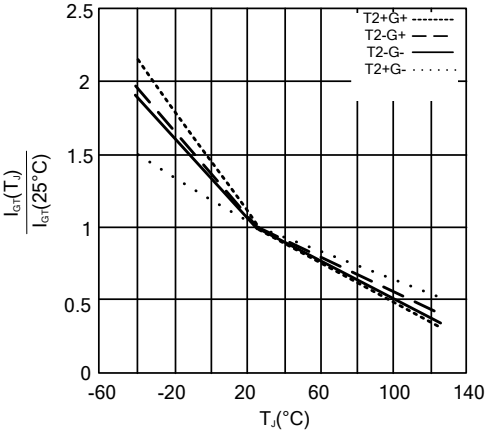


■ TYPICAL CHARACTERISTICS(Cont.)

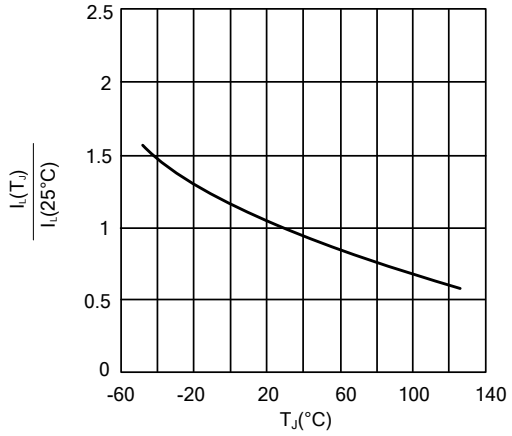
Normalized Gate Trigger Voltage as a of Function Junction Temperature; Typical Values.



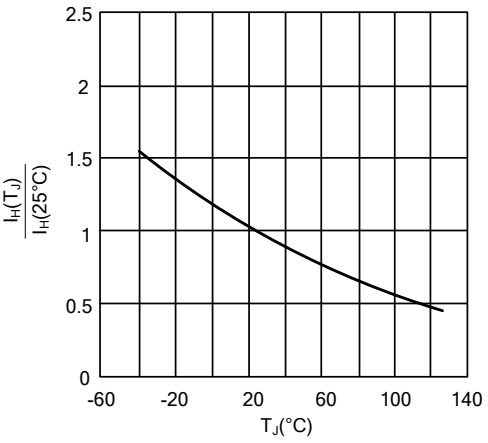
Normalized Gate Trigger Current as a Function of Junction Temperature; Typical Values.



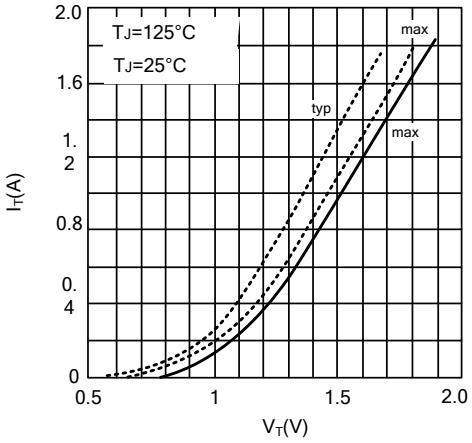
Normalized Latching Current as a Function of Junction Temperature; Typical Values.



Normalized Holding Current as a Function of Junction Temperature; Typical Values.



On-State Current as a Function of On-State Voltage; Typical and Maximum Values.



Critical Rate of Rise of Off-State Voltage as a Function of Junction Temperature; Typical Values.