BT131-6/8

TRIAC

TO-92

1. ANODE

2. GATE

3. ANODE

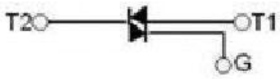
MAIN FEATURES

Symbol		value	unit
$I_{T(RMS)}$		1	A
V_{DRM}/V_{RRM}	BT131-6	400	V
	BT131-8	600	V
I_{TSM}		8	A

DESCRIPTION

Logic level sensitive gate triac intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

Equivalent Circuit



FEATURES

- Blocking voltage to 400 V
- RMS on-state current to 0.6 A
- General purpose bidirectional switching

APPLICATIONS

- General purpose bidirectional switching
- Phase control applications
- Solid state relays

Limiting values

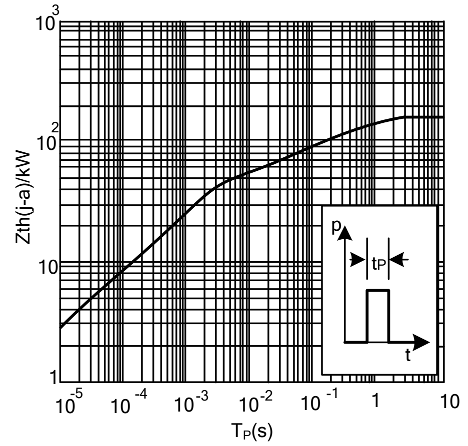
Symbol	Parameter		Conditions	Value	Unit
V_{DRM} / V_{RRM}	repetitive peak off-state voltage	BT131-6	T_j= 25 to125 ℃	400	V
		BT131-8	T_j= 25 to125 ℃	600	
I_{GM}	gate current(peak value)		t = 2μs max	1	A
V_{GM}	gate voltage(peak value)		t = 2μs max	5	V
P_{GM}	gate power(peak value)		t = 2μs max	5	W
T_j	Junction Temperature		-	-40 ~ 125	℃
T_{stg}	Storage Temperature		-	-40 ~ 150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

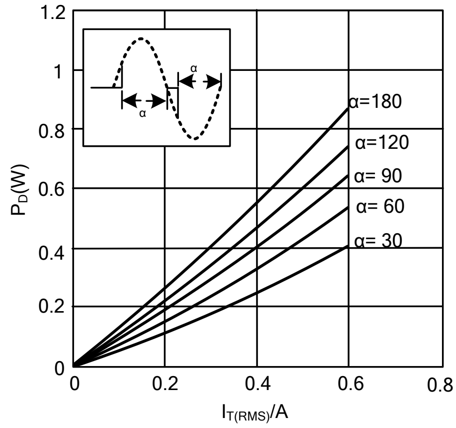
Parameter		Symbol	Test conditions		Min	Max	Unit
Rated repetitive peak off-state/reverse voltage		V_{DRM}, V_{RRM}	I_D=10μA	BT131-6	400		V
				BT131-8	600		
Rated repetitive peak off-state current		I_{DRM}	V_D=V_{DRM}			10	μA
On-state voltage		V_{TM}	I_T=1A,I_G=50mA			1.9	V
Gate trigger current	I	I_{GT}	T_2(+), G(+)	V_D=12V R_L=100Ω		5	mA
	II		T_2(+), G(-)			5	mA
	III		T_2(-), G(-)			5	mA
	IV		T_2(-), G(+)			-	mA
Gate trigger voltage	I	V_{GT}	T_2(+), G(+)	V_D=12V R_L=100Ω		1.5	V
	II		T_2(+), G(-)			1.5	V
	III		T_2(-), G(-)			1.5	V
	IV		T_2(-), G(+)			-	V
Holding current		I_H	I_T=600mA ,I_G=20mA			10	mA

TYPICAL CHARACTERISTICS

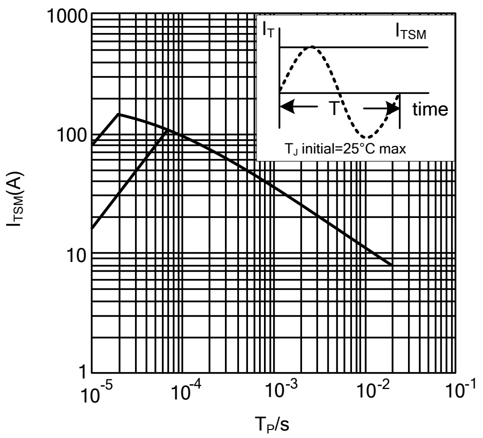
Transient Thermal Impedance From Junction to Ambient as a Function of Pulse Duration.



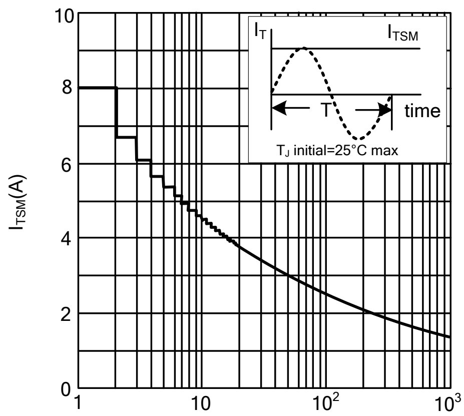
Maximum On-State Dissipation as a Function of RMS On-State Current; Typical Values. α=Conduction Angle.



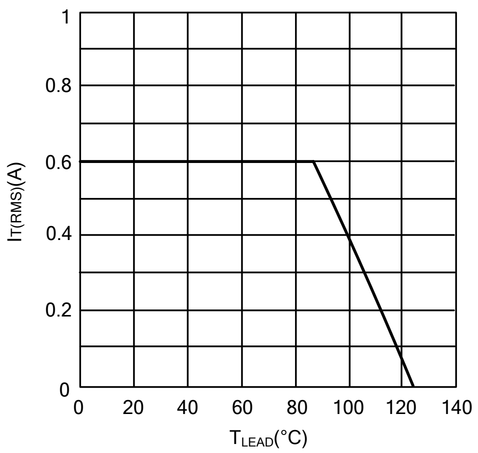
Maximum Permissible Non-Repetitive Peak on-State Current as a Function of Pulse Width for Sinusoidal Currents;Tyical Values. $t_P \leq$ 20ms.



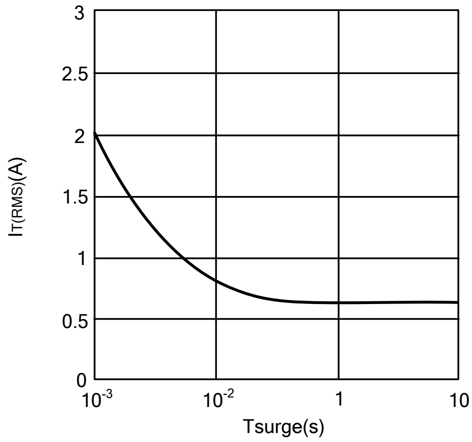
Maximum Permissible Non-Repetitive Peak On-State Current as a Function of Number of Cycles for Sinusoidal Currents; Typical Values . n=Number of Cycles at f=50Hz.



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

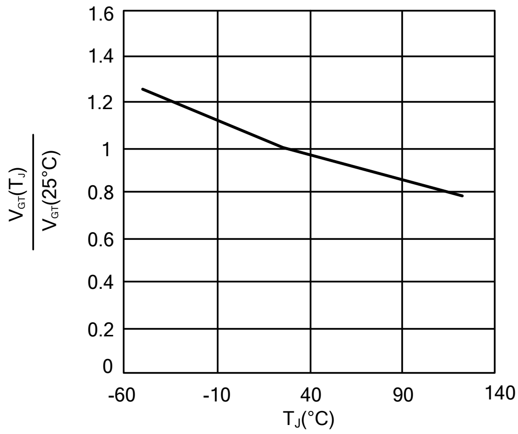


Maximum Permissible Repetitive RMS On-State Current as a Function of Surge Duration for Sinusoidal Currents; Typical Values. f=50Hz; $T_{LEAD} \leq$ 50°C

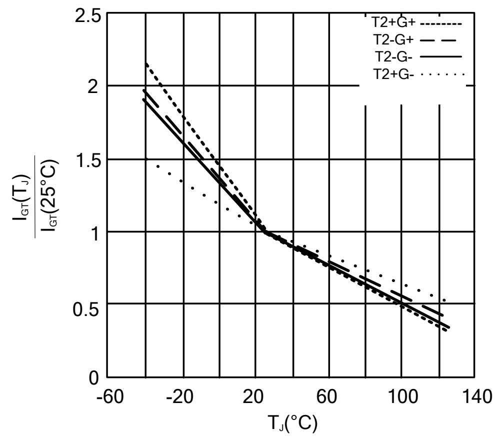


■ TYPICAL CHARACTERISTICS(Cont.)

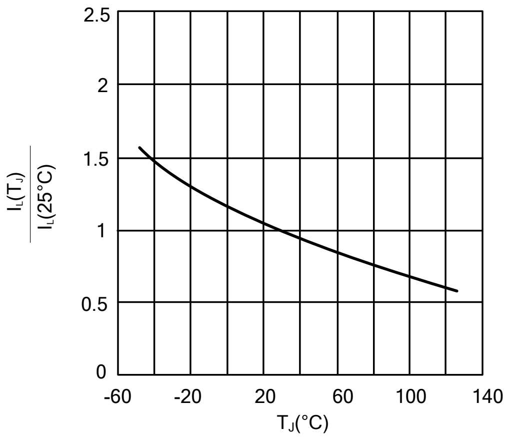
Normalized Gate Trigger Voltage as a of Function Junction Temperature; Typical Values.



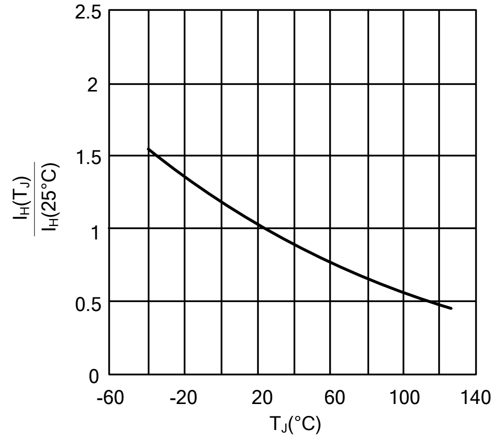
Normalized Gate Trigger Current as a Function of Junction Temperature; Typical Values.



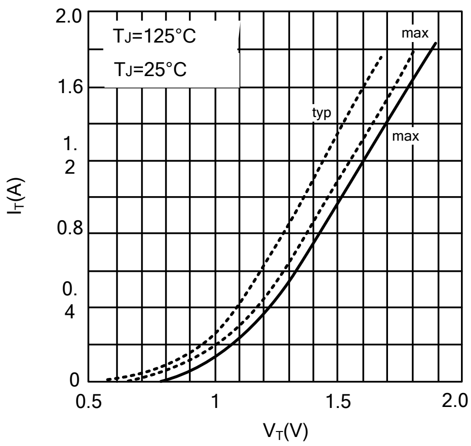
Normalized Latching Current as a Function of Junction Temperature; Typical Values.



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.