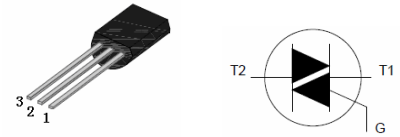


BT131

1A 800V TRIACS

DRAWING



- 1 (main terminal 2)
- 2 (gate)
- 3 (main terminal 1)

General Description

- Package: TO-92
- Passivated, sensitive gate triacs in a plastic envelope, intended for use in general purpose bidirectional switching and phase control applications. These devices are intended to be interfaced directly to micro controllers, logic integrated circuits and other low power gate trigger circuits.

LIMITING VALUES

Limiting values in accordance with the absolute Maximum System

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
VDRM	Repetitive peak off-state voltages			800	V
IT(RMS)	RMS on-state current	full sine wave; Tlead ≤ 66°C		1	A
ITSM	Non-repetitive peak on-state current	full sine wave; Tj = 25°C prior to surge	t = 20ms	12.5	A
			t = 16.7ms	13.8	A
I2t	I2t for fusing			1.28	A2S
DIT/dt	Repetitive rate of rise of on-state current after triggering	ITM = 1.5A; IG = 0.2A DIT/dt = 0.2A/us	T2+G+	50	A/us
			T2+G-	50	A/us
			T2-G-	50	A/us
			T2-G+	10	A/us
IGM	Peak gate current			2	A
PGM	Peak gate power			5	W
PG(AV)	Average gate power	over any 20ms period		0.5	W
Tstg	Storage temperature		-40	150	°C
Tj	Junction temperature			125	°C

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Rth j-lead	Thermal resistance junction to lead	Full cycle			60	K/W
		half cycle			80	K/W
th j-a	Thermal resistance junction to ambient	pcb mounted; lead length = 4mm		150		K/W

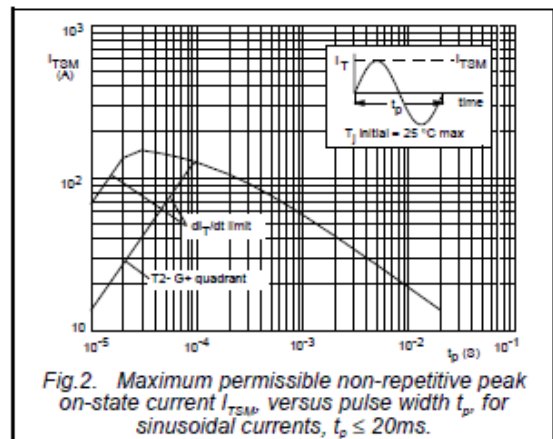
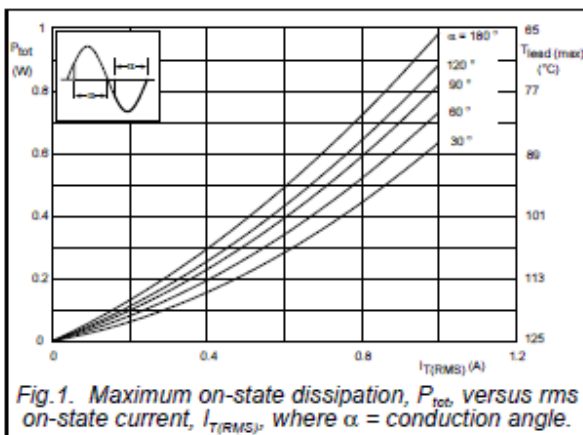
STATIC CHARACTERISTICS(T_j=25°C unless otherwise stated)

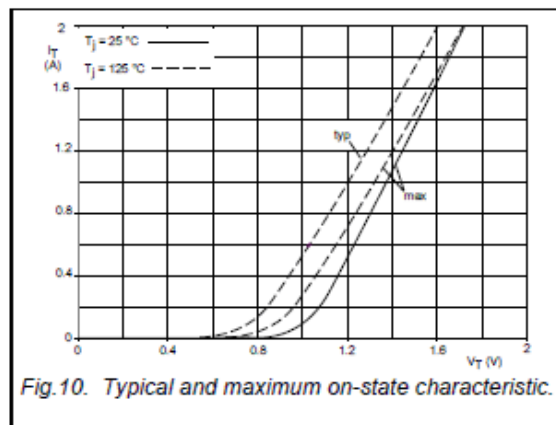
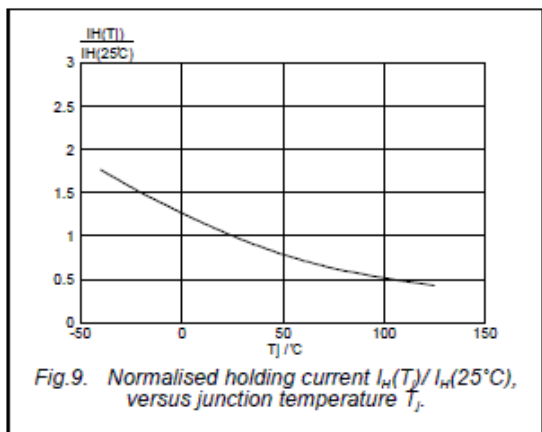
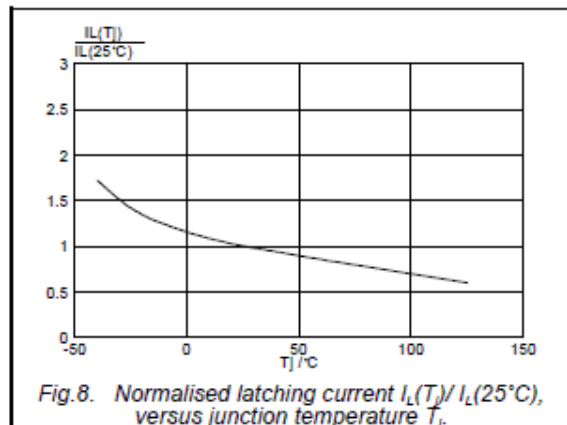
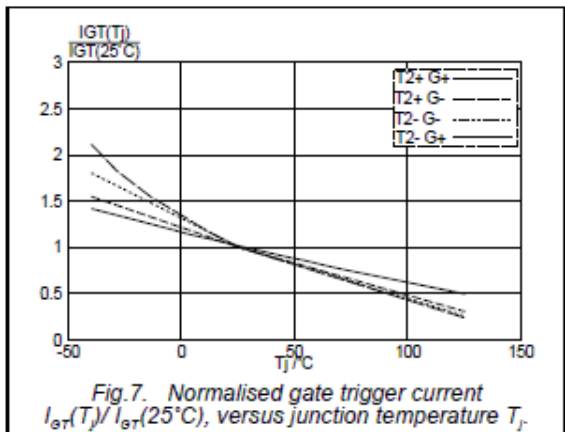
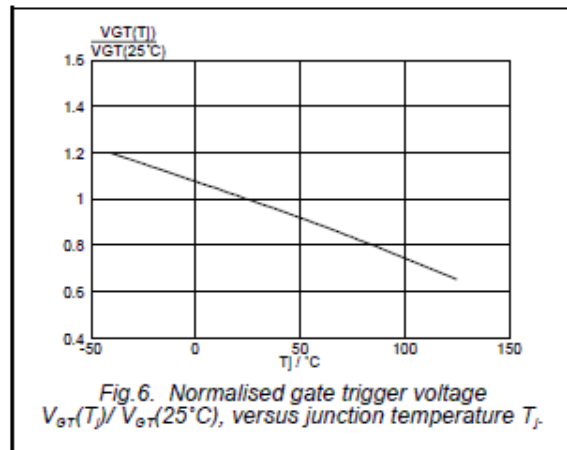
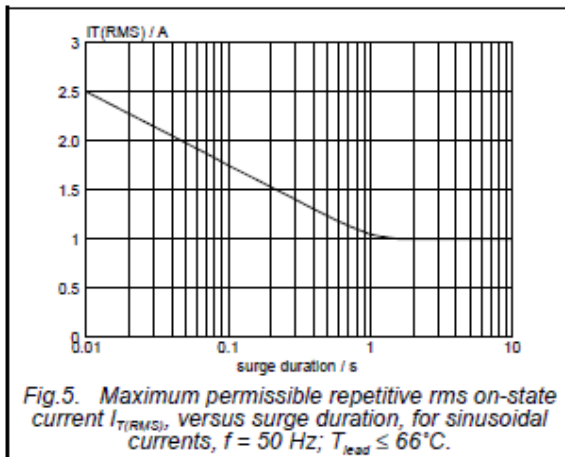
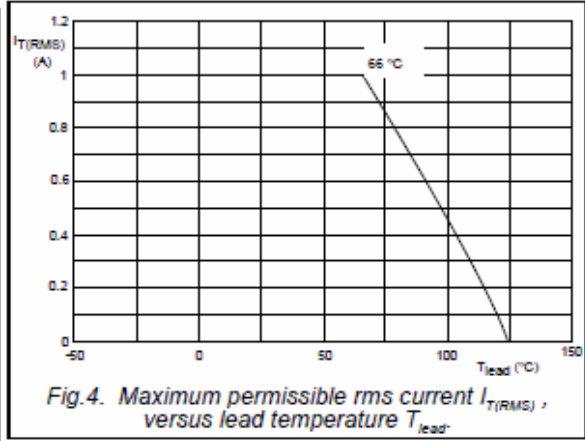
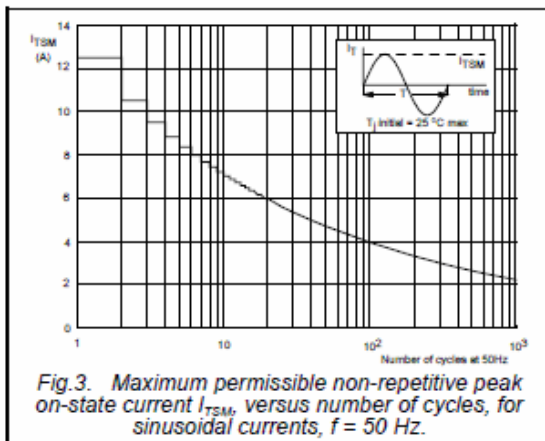
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	
I _{GT}	Gate trigger current	V _D =12V; I _T =0.1A	T2+G+		0.4	3	mA
			T2+G-		1.3	3	mA
			T2-G-		1.4	3	mA
			T2-G+		3.8	7	mA
I _L	Latching current	V _D =12V; I _{GT} =0.1A	T2+G+		1.2	5	mA
			T2+G-		4	8	mA
			T2-G-		1	5	mA
			T2-G+		2.5	8	mA
I _H	Holding current	V _D =12V; I _{GT} =0.1A		1.3	5	mA	
V _T	On-state voltage	I _T =1.4A		1.2	1.5	V	
V _{GT}	Gate trigger voltage	V _D =12V; I _T =0.1A		0.7	1.5	V	
		V _D =400V; I _T =0.1A T _j =125°C	0.2	0.3		V	
I _D	Off-state leakage current	V _D =V _{DRM(MAX)} T _j =125°C		0.1	0.5	mA	

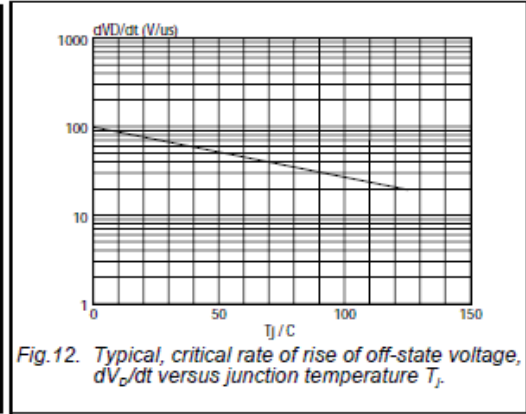
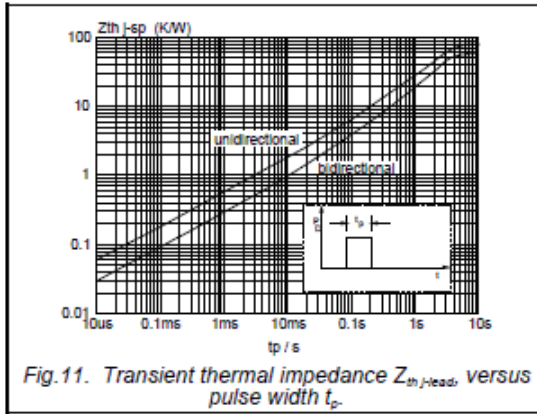
DYNAMIC CHARACTERISTICS(T_j=25°C unless otherwise stated)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
dVD/dt	Critical rate of rise of off-state voltage	V _{DM} =67%V _{DRM(MAX)} ; T _j =125°C; exponential waveform; R _{GK} =1KΩ	10	20		V/us
dV _{com} /dt	Critical rate of change of commutating voltage	V _{DM} =400V; T _j =125°C; dI _{com} /dt=0.5A/ms	2			V/us
T _{gt}	Gate controlled turn-on time	I _{TM} =1.5A; V _D =V _{DRM(MAX)} ; I _G =0.1A; DIG/DT=5A/us		2		us

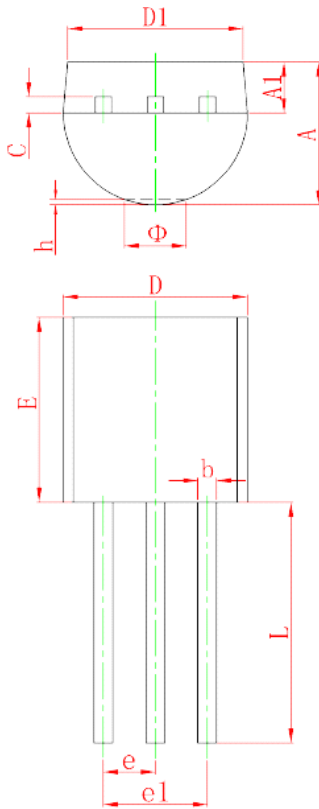
Typical Characteristics







Package Mechanical Data



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Phi		1.600		0.063
h	0.000	0.380	0.000	0.015