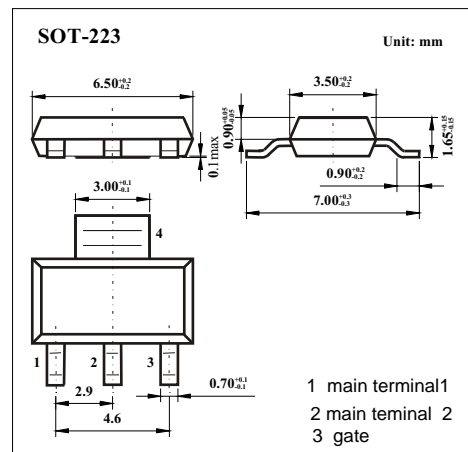
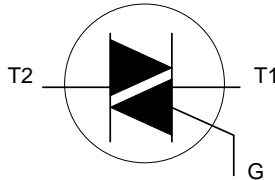


## Triacs

### BT131-500B

#### ■ Features

- Repetitive peak off-state voltages : $V_{DRM}=500V$
- RMS on-state current : $I_T(RMS)=1A$
- Non-repetitive peak on-state current : $I_{TSM}=16A$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Testconditons	BT131-500	Unit
Repetitive peak off-state voltages	$V_{DRM}$		500	V
RMS on-state current	$I_T(RMS)$	full sine wave; $T_{mb} \leq 51^\circ C$	1	A
Non-repetitive peak on-state current	$I_{TSM}$	full sine wave; $T_j = 25^\circ C$ prior to surge		
		$t = 20$ ms	16	A
		$t = 16.7$ ms	17.6	A
I <sup>2</sup> t for fusing	$I^2t$	$t = 10$ ms	1.28	A <sup>2</sup> S
Repetitive rate of rise of on-state current after triggering	$di/dt$	$I_{TM} = 1.5$ A; $I_G = 0.2$ A; $di/dt = 0.2$ A/ $\mu$ s		
		T2+ G+	50	A/ $\mu$ s
		T2+ G-	50	A/ $\mu$ s
		T2- G-	50	A/ $\mu$ s
		T2- G+	10	A/ $\mu$ s
Peak gate current	$I_{GM}$		2	A
Peak gate voltage	$V_{GM}$		5	V
Peak gate power	$P_{GM}$		5	W
Average gate power	$P_{G(AV)}$	over any 20 ms period	0.5	W
Storage temperature	$T_{stg}$		-40 to 150	$^\circ C$
Operating junction temperature	$T_j$		125	$^\circ C$
Thermal resistance junction to mounting base	$R_{thj-mb}$	full cycle	60	K/W
		half cycle	80	K/W
Thermal resistance junction to ambient	$R_{thj-a}$	in free air	150	K/W

## BT131-500B

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit		
					... E			
Gate trigger current	I <sub>GT</sub>	V <sub>D</sub> = 12 V; I <sub>T</sub> = 0.1 A			T2+ G+	0.4	3	mA
					T2+ G-	1.3	3	mA
					T2- G-	1.4	3	mA
					T2- G+	4.0	8	mA
Latching current	I <sub>L</sub>	V <sub>D</sub> = 12 V; I <sub>GT</sub> = 0.1 A			T2+ G+	1.2	5	mA
					T2+ G-	4.0	8	mA
					T2- G-	1.0	5	mA
					T2- G+	2.5	8	mA
Holding current	I <sub>H</sub>	V <sub>D</sub> = 12 V; I <sub>GT</sub> = 0.1 A			1.3	5	mA	
On-state voltage	V <sub>T</sub>	I <sub>T</sub> = 2.0 A			1.0	1.5	V	
Gate trigger voltage	V <sub>GT</sub>	V <sub>D</sub> = 12 V; I <sub>T</sub> = 0.1 A	0.2		0.3	1.5	V	
		V <sub>D</sub> = 400 V; I <sub>T</sub> = 0.1 A; T <sub>j</sub> = 125°C			0.7		V	
Off-state leakage current	I <sub>D</sub>	V <sub>D</sub> = V <sub>DRM(max)</sub> ; T <sub>j</sub> = 125°C			0.1	0.5	mA	
Critical rate of rise of off-state voltage	dV <sub>D</sub> /dt	V <sub>DM</sub> = 67% V <sub>DRM(max)</sub> ; T <sub>j</sub> = 125 °C ; exponential waveform; RGK=1KΩ	5		20		V/μs	
Gate controlled turn-on time	t <sub>gt</sub>	I <sub>TM</sub> = 1.5 A; V <sub>D</sub> = V <sub>DRM(max)</sub> ; I <sub>G</sub> = 0.1 A; di <sub>G</sub> /dt = 5 A/μs;			2		μs	