

BT131

Rev.E Mar.-2016

描述 / Descriptions

TO-92 塑封封装双向可控硅。 Triac in a TO-92 Plastic Package.

特征 / Features

低功率控制极电路。

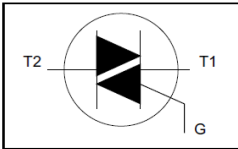
Low power gate trigger circuits..

用途 / Applications

一般用于双向转换和增强型控制。

USE in general purpose bi-directional switching and phase control application.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Main Terminal 2

PIN 2 : Gate

PIN 3 : Main Terminal 1

放大及印章代码 / h_{FE} Classifications & Marking

见印章说明。 See Marking Instructions.

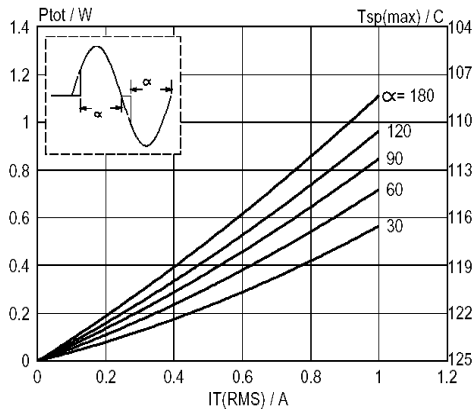
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Repetitive peak off-state voltages	V_{DRM}	500 600 800	V
RMS on-state current	$I_{T(RMS)}$	1.0	A
Non-repetitive peak on-state current	$I_{TSM}(t=20ms)$	16	A
I_t^2 for fusing	$I_t^2(t=10ms)$	1.28	A ² S
Repetitive rate of rise of on-state current after triggering	$di_T/dt_{(T2+G+)}$	50	A/ μ S
	$di_T/dt_{(T2+G-)}$	50	
	$di_T/dt_{(T2-G-)}$	50	
	$di_T/dt_{(T2-G+)}$	10	
Peak gate current	I_{GM}	2.0	A
Peak gate voltages	V_{GM}	5.0	V
Peak gate power	P_{GM}	5.0	W
Average gate power	$P_{G(AV)}$	0.5	W
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-40~150	°C

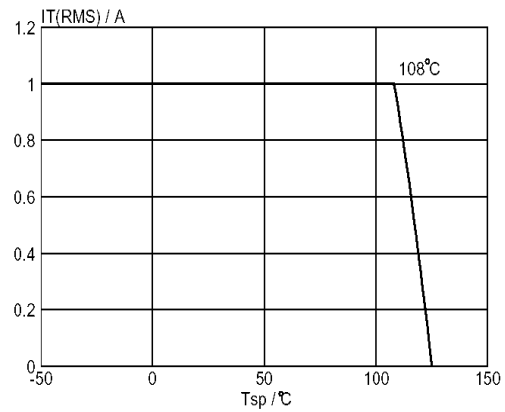
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions		最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Gate trigger current	I_{GT}	$V_D=12V$ $I_T=0.1A$	I-II-III		1.1	3.0	mA
			IV		4.5	10	
Latching current	I_L	$V_D=12V$ $I_{GT}=0.1A$	I-III		1.0	5.0	mA
			II-IV		3.0	8.0	
Gate trigger voltage	V_{GT}	$V_D=12V$ $I_{GT}=0.1A$	I-II-III		0.7	1.5	V
			IV		1.5	2.0	
		$V_D=400V$ $I_T=0.1A$	$T_j=125^\circ C$	0.2	0.3		
Holding current	I_H	$V_D=12V$	$I_{GT}=0.1A$		0.8	5.0	mA
On-state voltage	V_T	$I_T=1.5A$			1.2	1.5	V
Off-state leakage current	I_D	$V_D=V_{DRM(max)}$	$T_j=125^\circ C$		0.1	0.5	mA

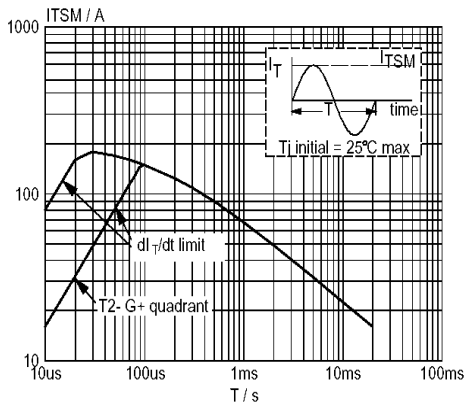
电参数曲线图 / Electrical Characteristic Curve



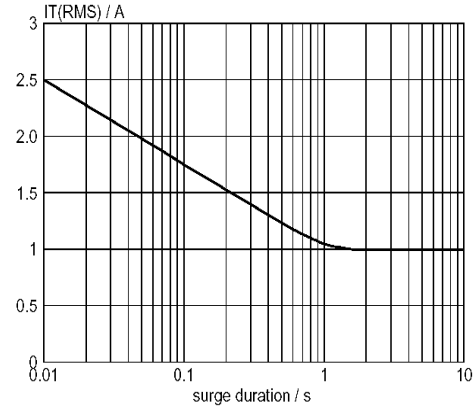
Maximum on-state dissipation, P_{tot} , versus rms on-state current, $I_{T(RMS)}$, where α = conduction angle.



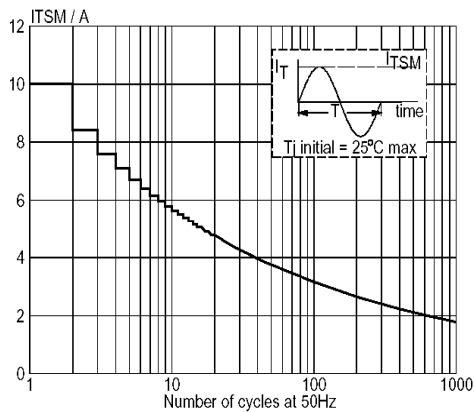
Maximum permissible rms current $I_{T(RMS)}$, versus lead temperature T_{lead} .



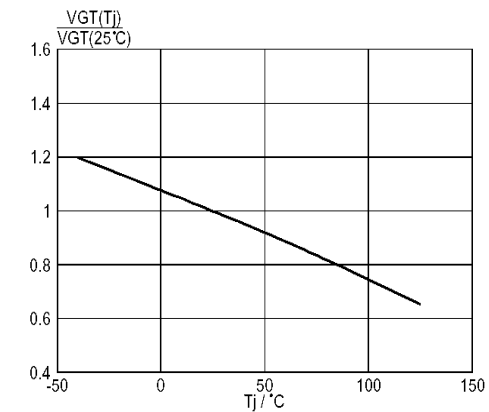
Maximum permissible non-repetitive peak on-state current I_{TSM} , versus pulse width t_p , for sinusoidal currents, $t_p \leq 20ms$.



Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, $f = 50 Hz$; $T_{lead} \leq 51^\circ C$.



Maximum permissible non-repetitive peak on-state current I_{TSM} , versus number of cycles, for sinusoidal currents, $f = 50 Hz$.

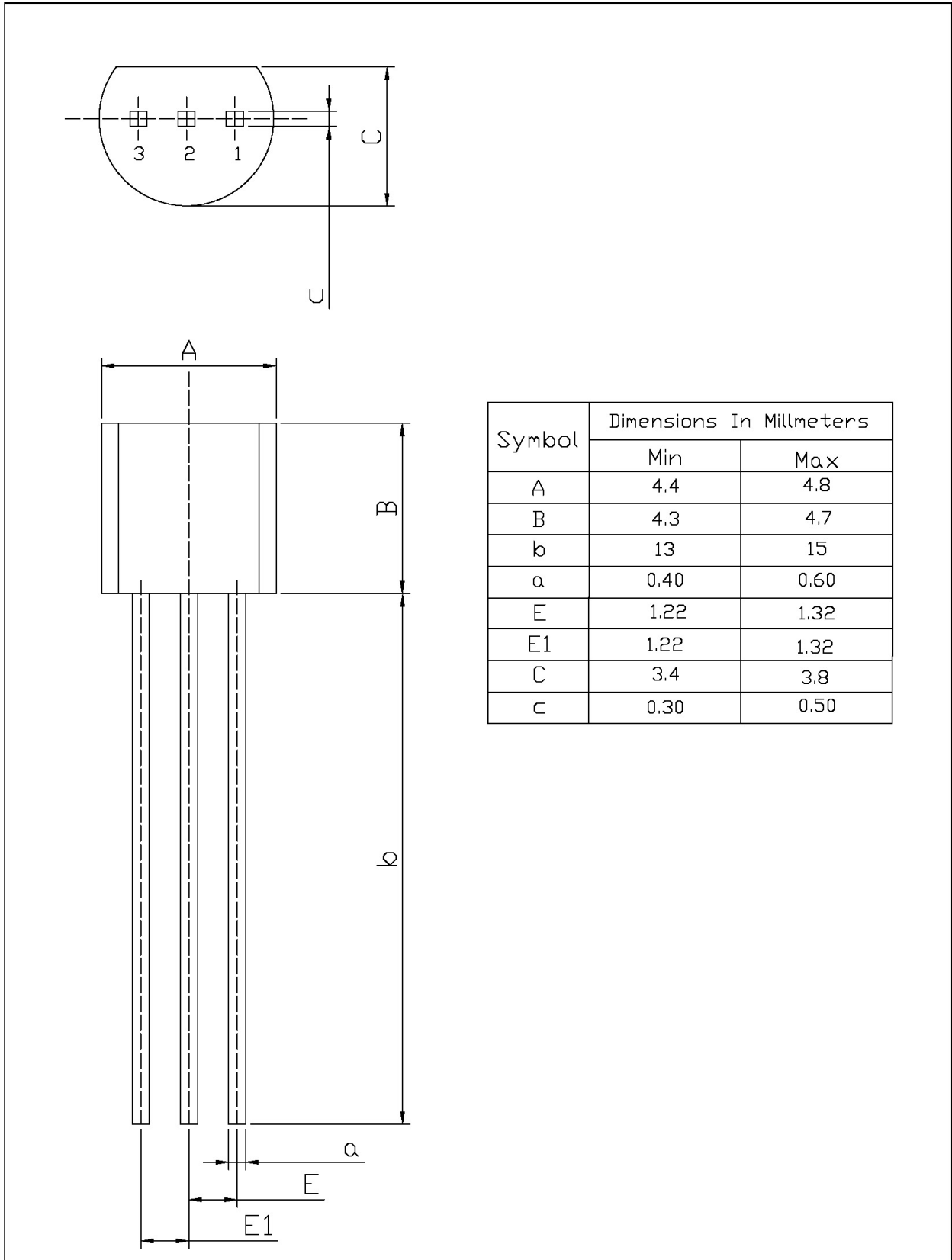


Normalised gate trigger voltage $V_{GT}(T_j) / V_{GT}(25^\circ C)$, versus junction temperature T_j .

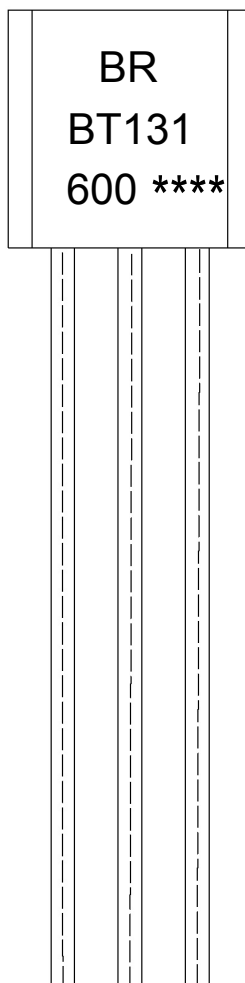
外形尺寸图 / Package Dimensions

TO-92

Unit: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

BT131： 为产品型号

600： 为 V_{DRM} 档次代码

****： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

BT131: Product Type.

600: V_{DRM} Level Code

****: Lot No. Code, code change with Lot No.

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5°C

时间：10±1 sec.

Temp.:270±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

编带包装 / AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92	3,000	1	120	10	30,000	328×230×42	小箱 480×346×235, 大箱 547×407×268

使用说明 / Notices