

BRBT0106DKA

Rev.A Apr.-2024

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。

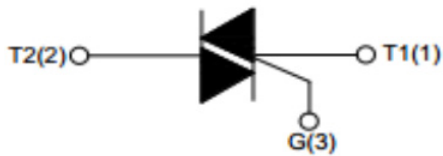
Low power gate trigger circuits.

用途 / Applications

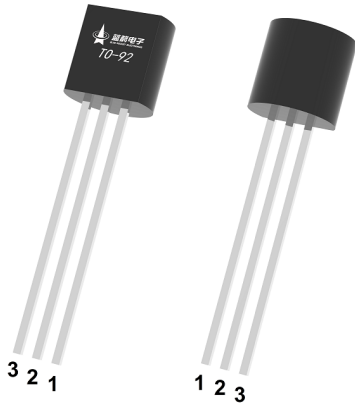
适用于一般用途交流开关。如固态继电器、加热调节、异步电动机起动电路、电机速度控制器等。

Suitable for general purpose AC switching .Such as static relays,heating regulation,induction motor starting circuits,motor speed controllers,etc.

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

印章代码 / 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/reverse voltages(T _j =25°C)	V _{DRM} /V _{R_{RRM}}	600	V
RMS on-state current(T _C =110°C)	I _{T(RMS)}	1	A
Non repetitive surge peak on-state current(full cycle, T _j =25°C)	I _{TSM(t=20ms)}	16	A
Critical rate of rise of on-state current (I _G =2I _{GT} , f=100Hz T _j =125°C)	dI/dt I-II-III	50	A/μs
	dI/dt IV	30	
Peak gate current(t _p =20μs T _j =125°C)	I _{GM}	2.0	A
Average gate power dissipation(T _j =125°C)	P _{G(AV)}	0.5	W
Operating junction temperature range	T _j	-40~125	°C
Storage junction temperature range	T _{stg}	-40~150	°C
Junction to ambient(AC)	R _{th(j-a)}	150	°C/W
Junction to case for(AC)	R _{th(j-c)}	60	

电性能参数 / Electrical Characteristics(T_j=25°C)
免缓冲器和逻辑电平 (4象限) / Snubberless and logic level (4 quadrants)

符号 Symbol	测试条件 Test Conditions	信号区 Quadrant	数值 Value		单位 Unit
I _{GT}	V _D =12V R _L =33Ω	I-II-III	Max.	5	mA
		IV		10	
V _{GT}	V _D =12V R _L =33Ω	I-II-III-IV	Max.	1.3	V
V _{GD}	V _D =V _{DRM} R _L =3.3KΩ T _j =125°C	I-II-III-IV	Min.	0.2	V
I _L	I _G =1.2I _{GT}	I-III-IV	Max.	5	mA
		II		20	
I _H	I _T =50mA		Max.	7	mA
dV/dt	V _D =67% V _{DRM} Gate Open	T _j =125°C	Min.	120	V/μs
V _{TM}	I _{TM} = 1.4A t _p =380μs	T _j =25°C	Max.	1.45	V
I _{DRM}	V _D =V _{DRM} V _R =V _{R_{RRM}}	T _j =25°C		5	μA
I _{R_{RRM}}		T _j =125°C		0.2	mA

电参数曲线图 / Electrical Characteristic Curve

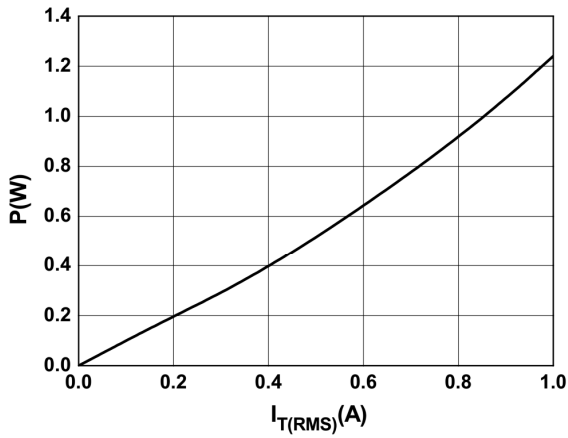


FIG.1 Maximum power dissipation versus RMS on-state current

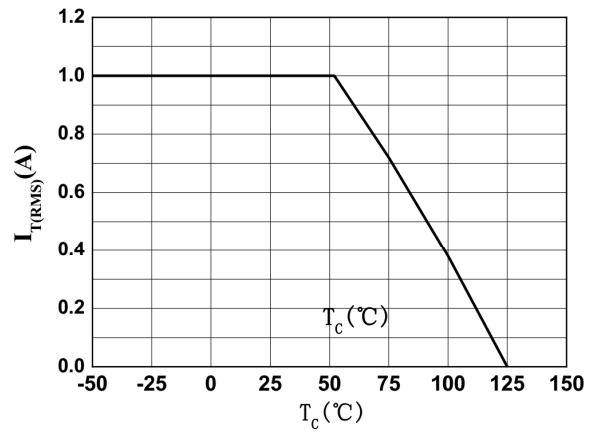


FIG.2: RMS on-state current versus case temperature

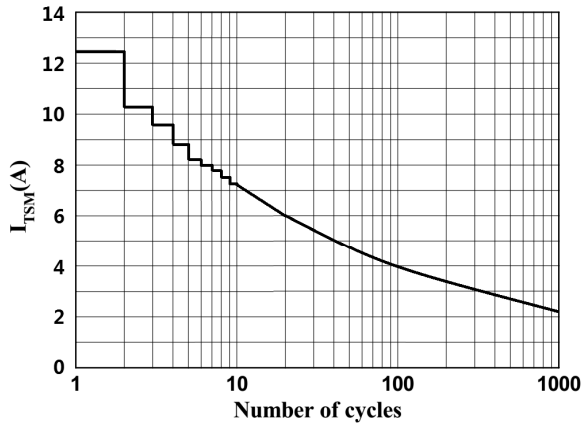


FIG.3: Surge peak on-state current versus number of cycles

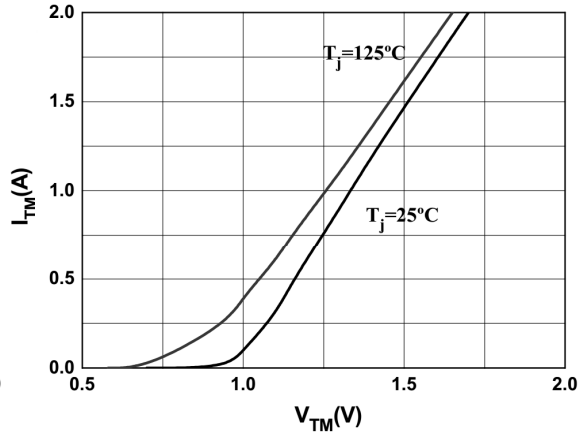


FIG.4: On-state characteristics

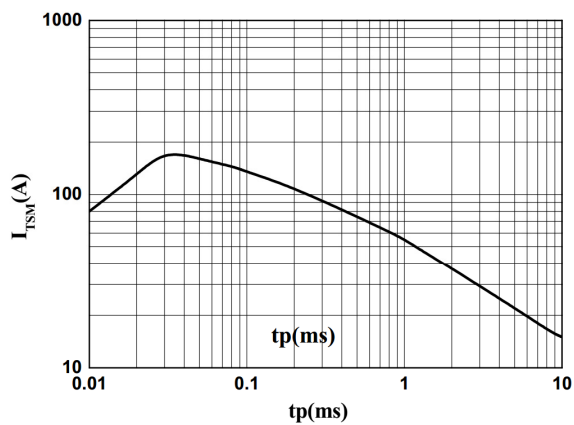


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II - III: $dI/dt < 50\text{A}/\mu\text{s}$; IV: $dI/dt < 30\text{A}/\mu\text{s}$)

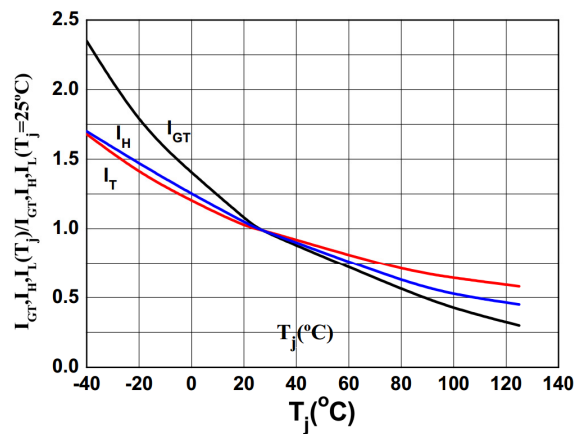
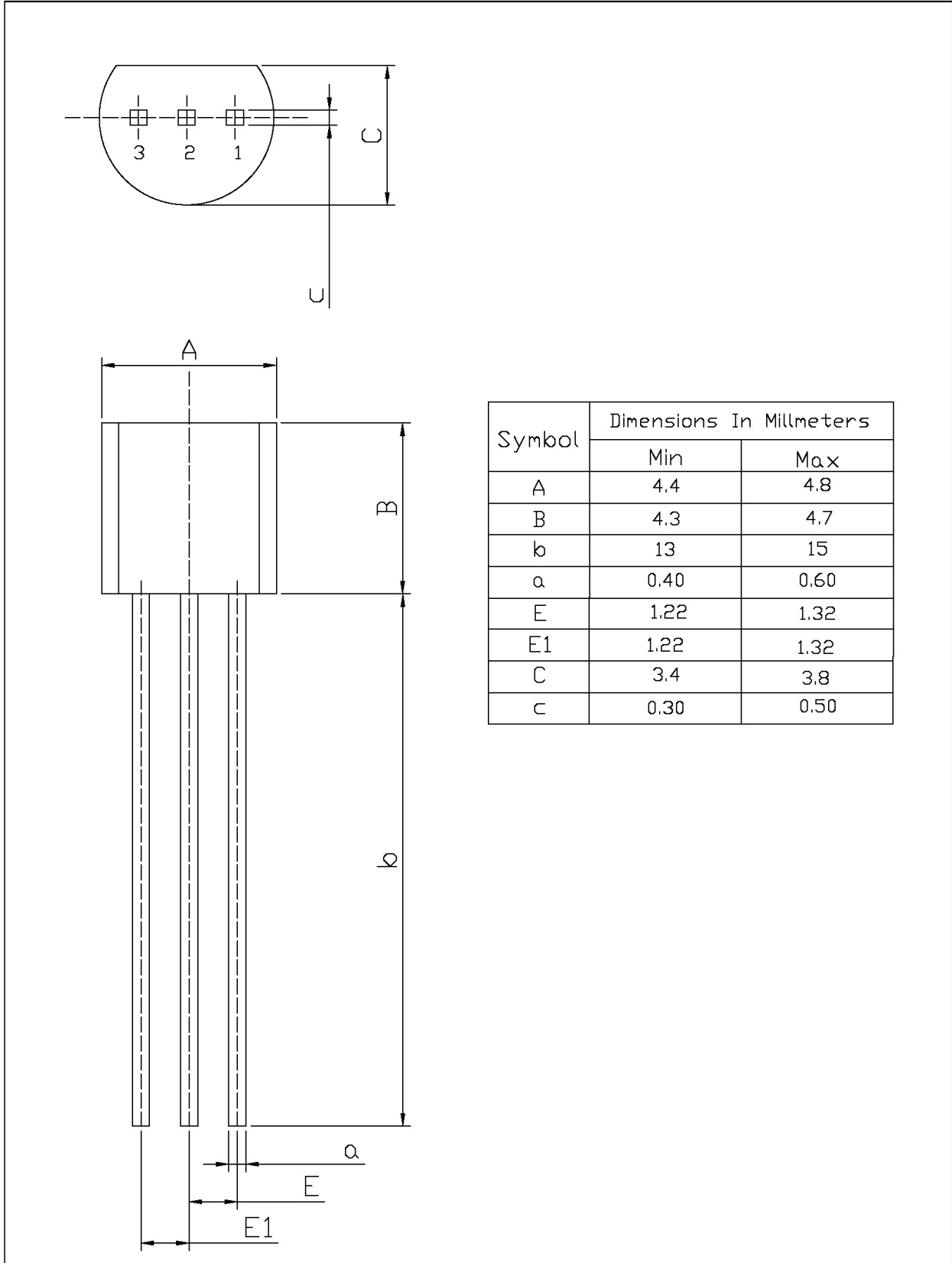


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

外形尺寸图 / Package Dimensions

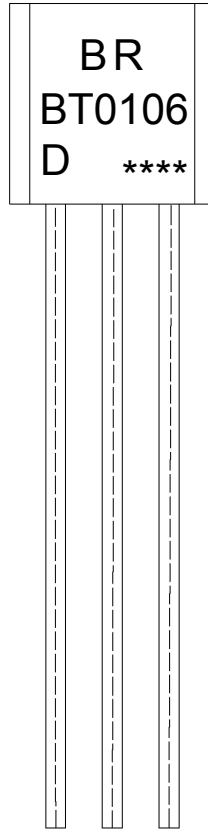
TO-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.4	3.8
c	0.30	0.50

印章说明 / Marking Instructions



说明：

BR： 为公司代码

BT0106： 为型号代码

D： 为 I_{GT} 档次代码

****： 为生产批号代码，随生产批号变化

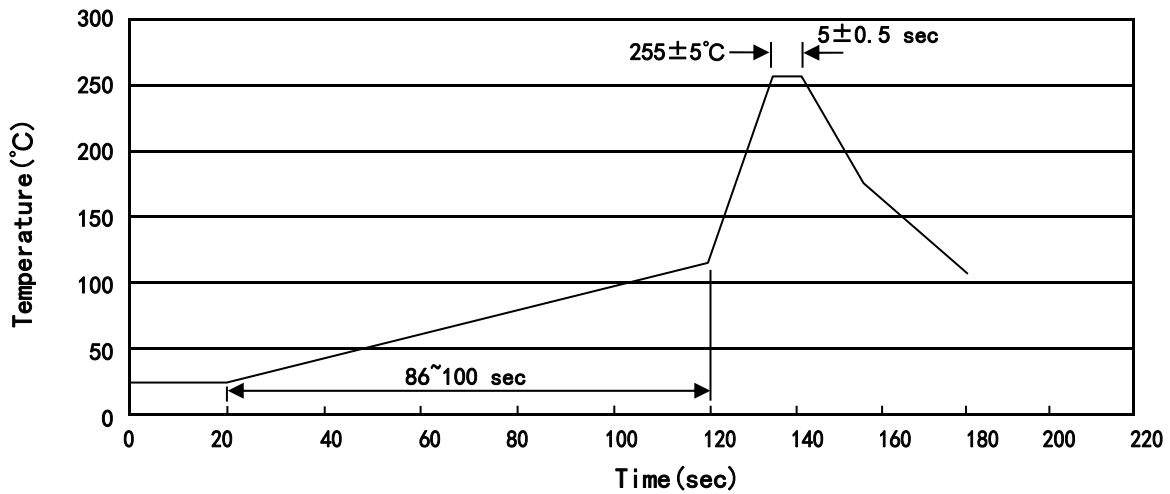
Note:

BR: Company Code

BT0106: Product Type Code

D: I_{GT} 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

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	480×346×235

使用说明 / Notices