

MAC97A8

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

四种灵敏的门触发模式适合于各种组合的触发电源。

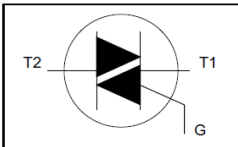
Sensitive Gate Triggering in Four Trigger Modes for all possible Combinations of Trigger Sources..

用途 / Applications

用于固态继电器、微处理器面板、TTL 逻辑门、工业灯具。

Used in solid state relays. MPU interface. TTL logic and any other industrial 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}	600	V	
RMS on-state current	$I_{T(RMS)}$	0.6	A	
Non-repetitive peak on-state current	$I_{TSM}(t=20ms)$	8.0	A	
Non-repetitive peak on-state current	$I_{TSM}(t=16.7ms)$	8.8	A	
I^2t for fusing	$I^2t_{(t=10ms)}$	0.32	A ² S	
Repetitive rate of rise of on-state current after triggering	d_{IT}/dt $I_{TM}=1A,$ $I_G=0.2A$ $d_{IG}/dt=$ $0.2A/\mu s$	T2+G+	A/ μ S	
Repetitive rate of rise of on-state current after triggering		T2+G-		50
Repetitive rate of rise of on-state current after triggering		T2-G-		50
Repetitive rate of rise of on-state current after triggering		T2-G+		10
Peak gate current	$I_{GM}(t=2\mu s_{max})$	1.0	A	
Peak gate voltages	$V_{GM}(t=2\mu s_{max})$	5.0	V	
Peak gate power	$P_{GM}(t=2\mu s_{max})$	5.0	W	
Average gate power	$P_{G(AV)}$ (Tcase=80°C t=2 μ smax)	0.1	W	
Peak gate current	I_{GM}	1.0	A	
Junction Temperature	T_j	-40~125	°C	
Storage Temperature Range	T_{stg}	-40~150	°C	

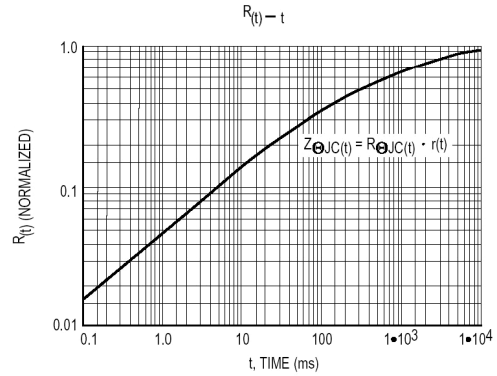
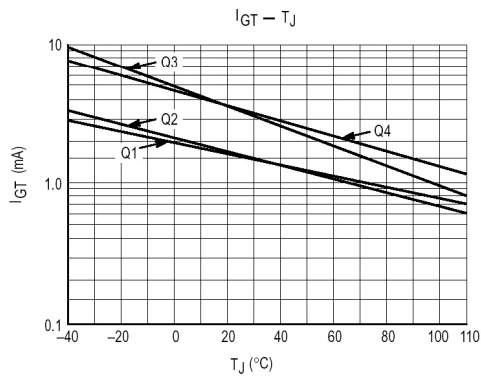
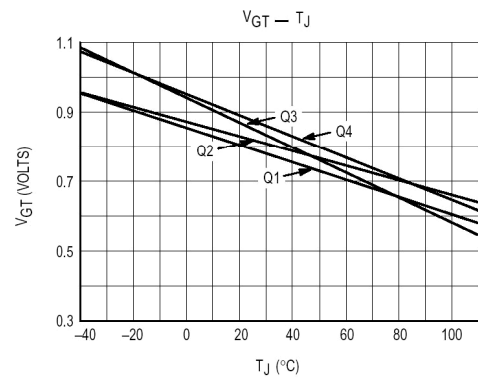
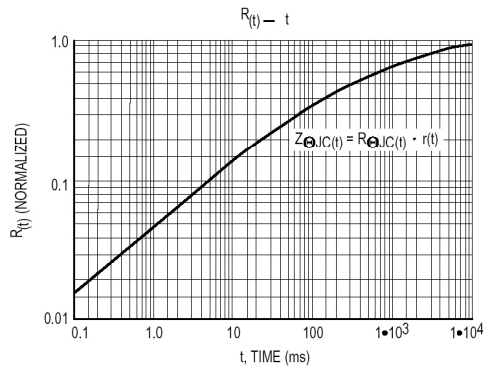
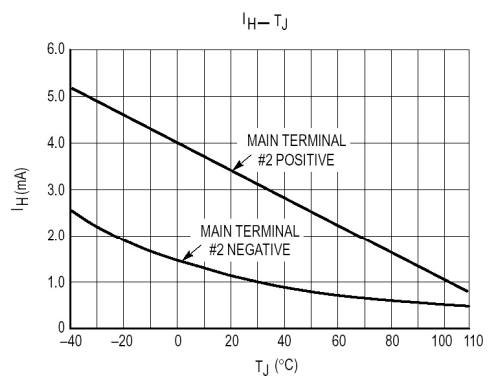
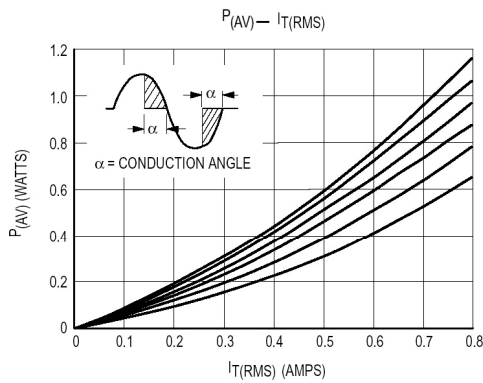
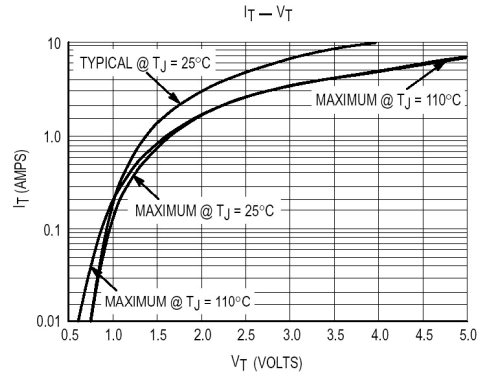
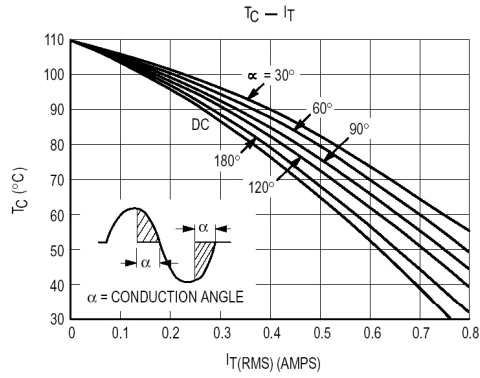
电性能参数 / Electrical Characteristics(Ta=25°C)

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}	$V_D=12V,$ $I_T=0.1A$	T2+G+	1.0	5.0	mA	
			T2+G-		2.0		5.0
			T2-G-		2.0		5.0
			T2-G+		4.0		7.0
Latching current	I_L	$V_D=12V;$ $I_{GT}=0.1A$	T2+G+		1.0	10	mA
			T2+G-		5.0	10	
			T2-G-		1.0	10	
			T2-G+		2.0	10	
Holding current	I_H	$V_D=12V$ $I_{GT}=0.1A$		1.0	10	mA	
On-state voltage	V_T	$I_T=0.85A$		1.4	1.9	V	

极限参数 / Absolute Maximum Ratings(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 voltage	V_{GT}	$V_D=12V$ $I_T=0.1A$		0.9	2.0	V
		$V_D=V_{DRM}$ $I_T=0.1A$ $T_J=110^\circ C$	0.1	0.7		
Off-state leakage current	I_D	$V_D=V_{DRM(max)}$ $T_J=110^\circ C$		3.0	100	μA
Gate Controlled Turn-On Time	tgt	$I_{TM}=1.0A$ $V_D=V_{DRM}$ $I_G=25mA, d_{IG}/dt=5A/\mu s$		2.0		μs
Critical Rate-of-Rise of Commutation Voltage	d_{VD}/dt	$V_D=67\%$ of $V_{DM(max)}$, $T_{case}=110^\circ C$ exponential waveform gate open circuit	30	45		V/ μs
Critical Rate-of-Rise of Off State Voltage	d_{Vcom}/dt	$V_D=rated V_{DRM}$ $T_{case}=50^\circ C$ $I_{TM}=0.84A$, commutating $d_I/dt=0.3A/\mu s$		5.0		V/ μs
Critical rate of rise of off-state current	I_{DRM}	$V_{DRM}=600V$			0.5	mA
Repetitive peak off-state current	I_{RRM}	$V_{RRM}=600V$			0.5	mA

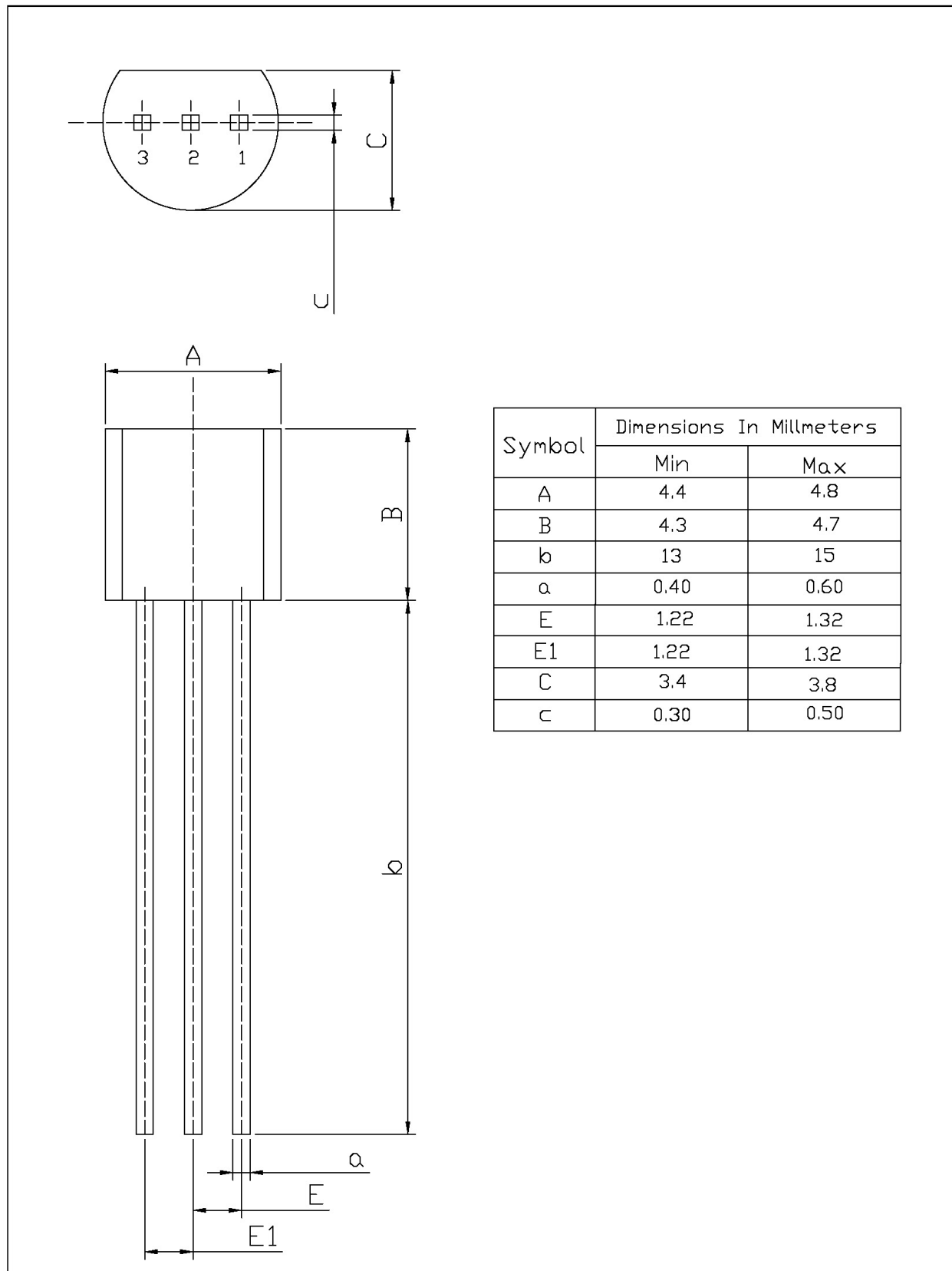
电参数曲线图 / Electrical Characteristic Curve



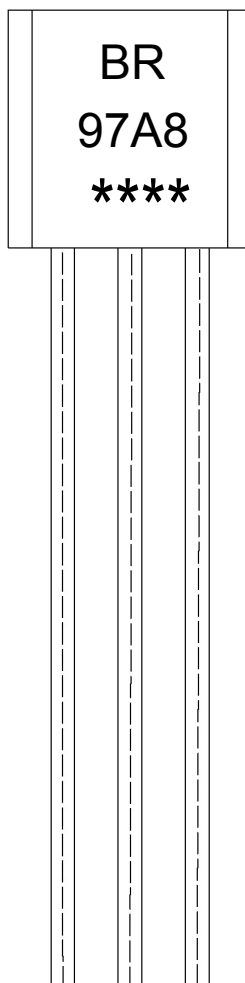
外形尺寸图 / Package Dimensions

TO-92

Unit: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

97A8： 为型号代码

****： 为生产批号代码，随生产批号变化。

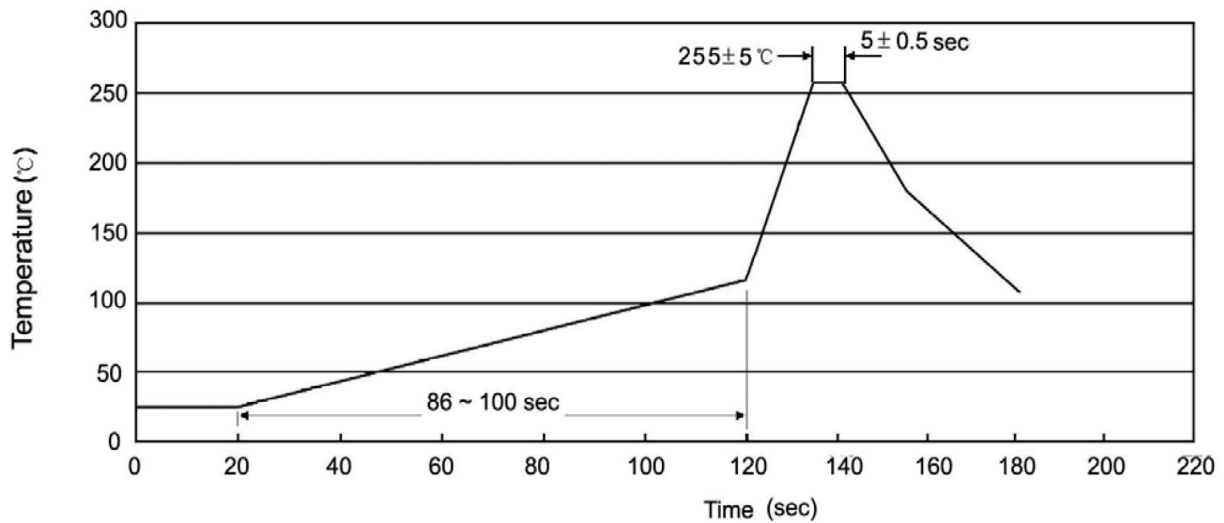
Note:

BR: Company Code.

97A8: Product Type.

****: 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