

## 描述 / Descriptions

TO-92 塑封封装单向可控硅。Thyristor in a TO-92 Plastic Package.

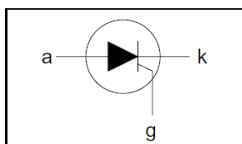
## 特征 / Features

阻断电压高、浪涌电流承受能力强。  
High Blocking Voltage、High Surge Current Capability.

## 用途 / Applications

应用于高压控制电路。  
Applied to high Voltage control circuit.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN 1 : Anode      PIN 2 : Gate      PIN 3 : Cathode

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

见印章说明。See Marking Instructions.

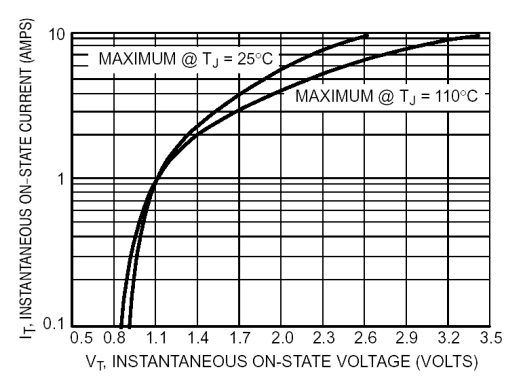
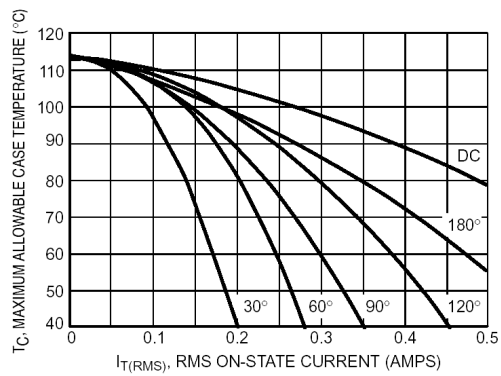
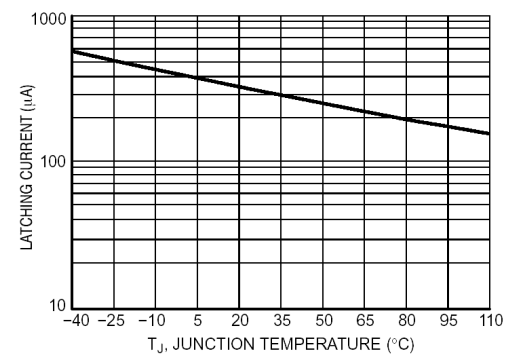
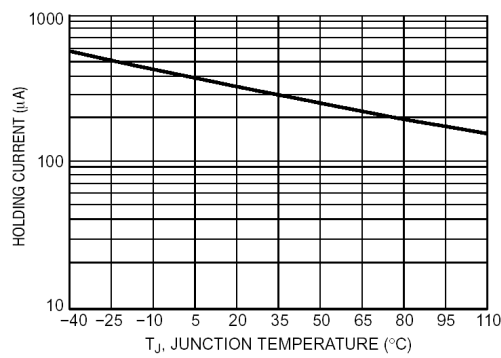
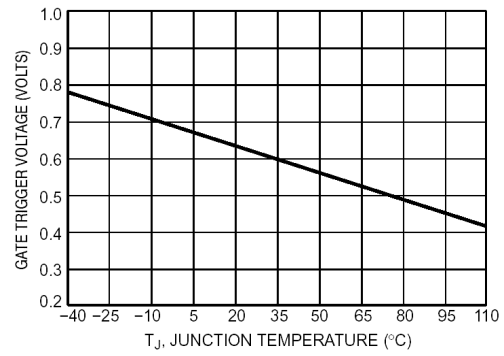
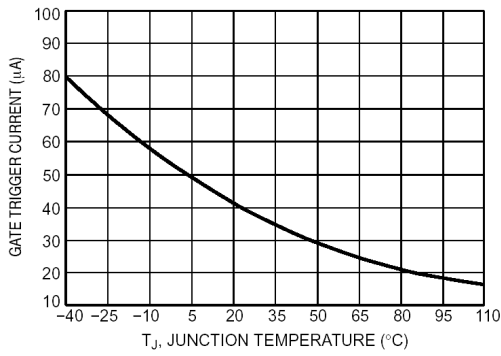
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	数值 Rating	单位 Unit
Repetitive peak off-state voltages	$V_{DRM}$	$T_j = -40$ to $110^\circ\text{C}$ , Sine Wave, 50 to 60Hz, Gate Open	100	V
Repetitive peak off-state voltages	$V_{RRM}$	MCR100-3 MCR100-4 MCR100-6 MCR100-8	200 400 600	
RMS on-state current	$I_{T(RMS)}$	$T_c = 80^\circ\text{C}$	0.8	A
Non-repetitive peak on-state current	$I_{TSM}$	1/2 Cycle, Sine Wave, 60Hz, $T_j = 25^\circ\text{C}$	10	A
$I_t^2$ for fusing	$I^2t$	$t = 8.3\text{ms}$	0.415	$\text{A}^2\text{S}$
Peak gate power	$P_{GM}$	$T_A = 25^\circ\text{C}$ , Pulse Width $\leq 1.0\mu\text{s}$	100	mW
Peak Average power	$P_{G(AV)}$	$T_A = 25^\circ\text{C}$ , $t = 8.3\text{ms}$	100	mW
Peak gate current	$I_{GM}$	$T_A = 25^\circ\text{C}$ , Pulse Width $\leq 1.0\mu\text{s}$	1.0	A
Peak Reverse Gate Voltage	$V_{RGM}$	$T_A = 25^\circ\text{C}$ , Pulse Width $\leq 1.0\mu\text{s}$	5.0	V
Junction Temperature	$T_j$		-40 ~ 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$		-40 ~ 150	$^\circ\text{C}$

**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	
Repetitive peak off-state current	$I_{DRM}, I_{RRM}$	$V_D = \text{Rated}$ $V_{DRM}$ and $V_{RRM}$ $R_{GK} = 1\text{K}\Omega$	$T_c = 25^\circ\text{C}$		10	$\mu\text{A}$	
			$T_c = 110^\circ\text{C}$		100		
On-state voltage	$V_{TM}$	$I_{TM} = 1.0\text{A peak @ } T_A = 25^\circ\text{C}$			1.7	V	
Gate trigger current	$I_{GT}$	$V_{AK} = 7.0\text{Vdc}$ $R_L = 100\Omega$ $T_c = 25^\circ\text{C}$		40	200	$\mu\text{A}$	
Holding current	$I_H$	$V_{AK} = 7.0\text{Vdc}$ Initiating Current = 20mA	$T_c = 25^\circ\text{C}$		0.5	5.0	mA
			$T_c = -40^\circ\text{C}$			10	
Latch Current	$I_L$	$V_{AK} = 7.0\text{V}$ , $I_g = 200\mu\text{A}$	$T_c = 25^\circ\text{C}$		0.6	10	mA
			$T_c = -40^\circ\text{C}$			15	
Gate trigger voltage	$V_{GT}$	$V_{AK} = 7.0\text{Vdc}$ , $R_L = 100\Omega$	$T_c = 25^\circ\text{C}$		0.62	0.8	V
			$T_c = -40^\circ\text{C}$			1.2	
Forward Voltage Application Rate	dv/dt	$V_D = \text{Rated } V_{DRM}$ Exponential Waveform, $R_{GK} = 1\text{K}\Omega$ $T_j = 110^\circ\text{C}$	20	35	-	V/us	
Critical rate of rise of off-state voltage	di/dt	$I_{PK} = 20\text{A}$ $di_G/dt = 1\text{A/usec}$ $P_W = 10\text{usec}$ ; $I_{GT} = 20\text{mA}$			50	A/us	

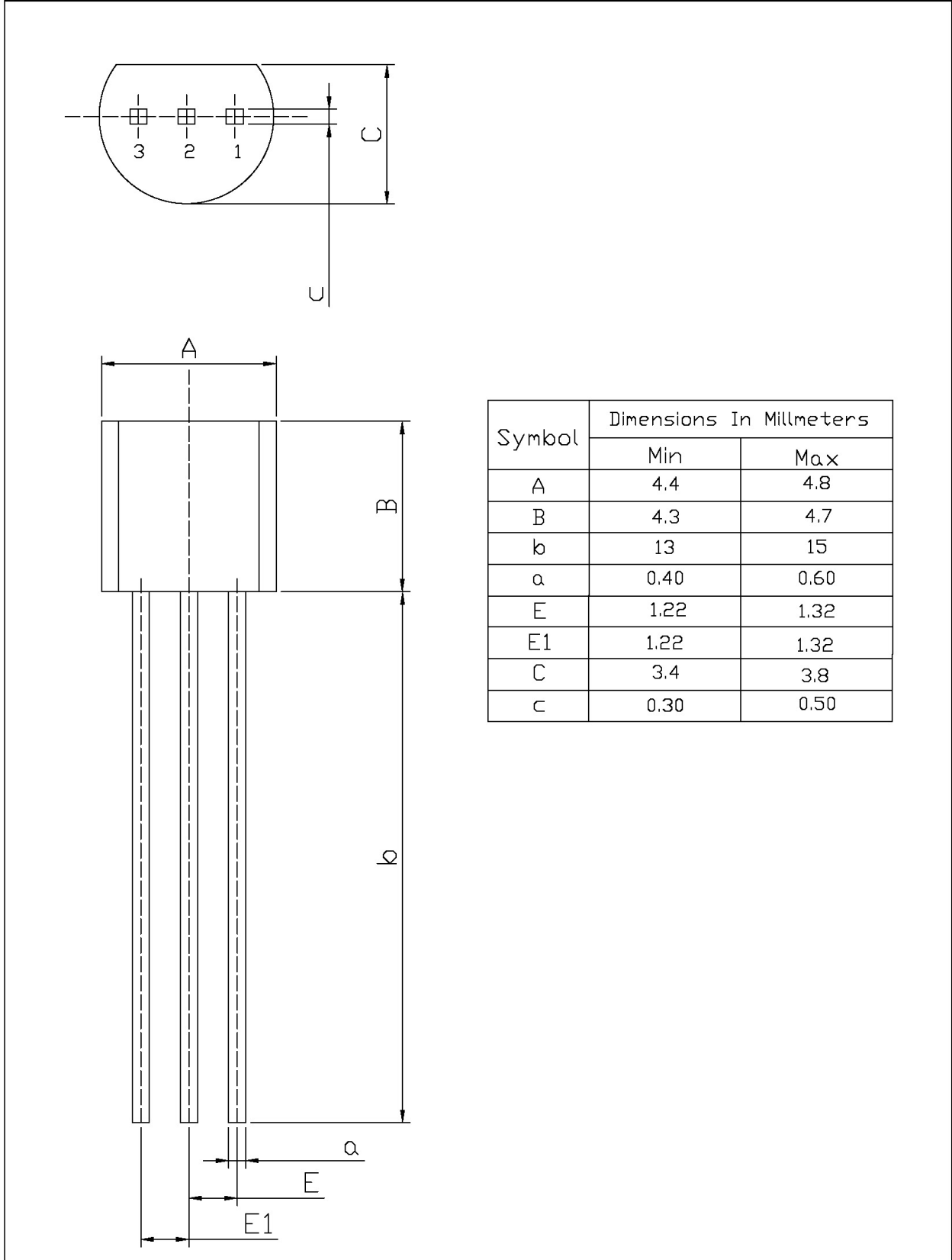
**电参数曲线图 / Electrical Characteristic Curve**



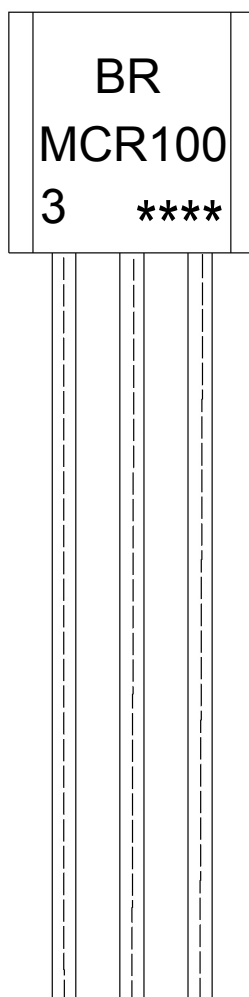
外形尺寸图 / Package Dimensions

T0-92

Unit: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

MCR100： 为产品型号

3： 为规格代码

\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

MCR100: Product Type.

3: Specification 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**