

描述 / Descriptions

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

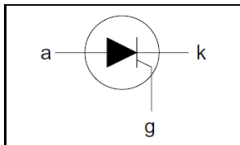
特征 / Features

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



PIN1 : 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.

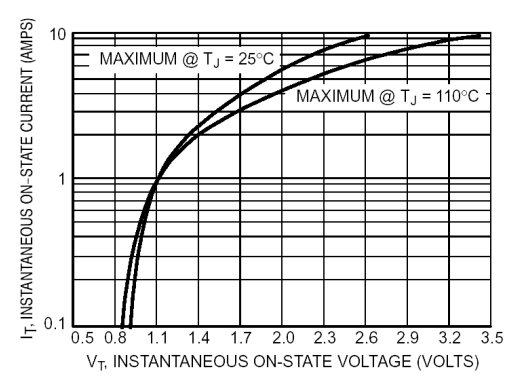
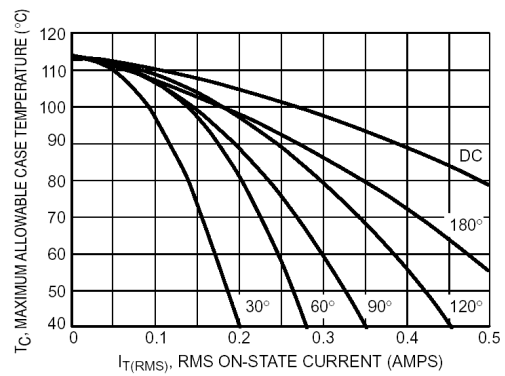
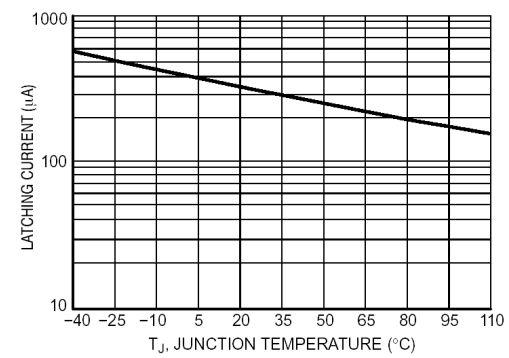
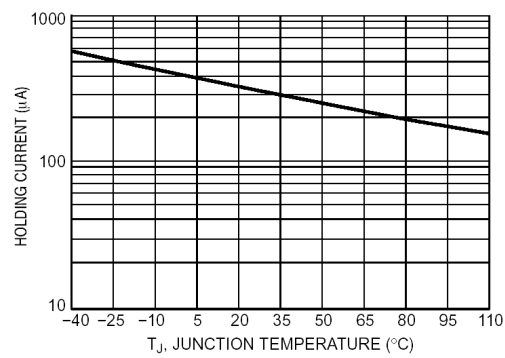
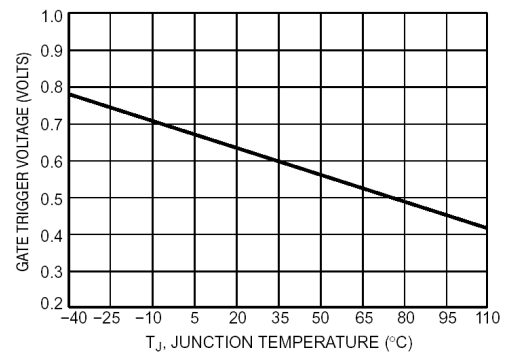
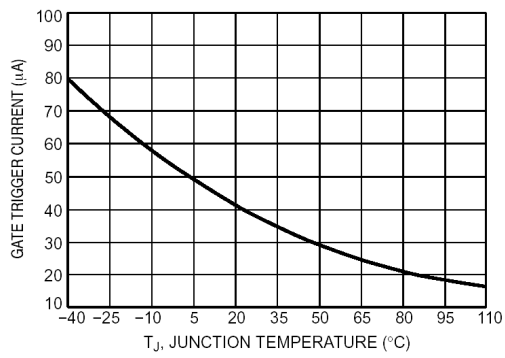
极限参数 / Absolute Maximum Ratings(Ta=25℃)

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°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	
Non-repetitive peak on-state current	I_{TSM}	1/2 Cycle, Sine Wave, 60Hz, $T_J = 25^{\circ}\text{C}$	10	
I_t^2 for fusing	I^2t	$t = 8.3\text{ms}$	0.415	A^2S
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		$-40 \sim 125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}		$-40 \sim 150$	$^{\circ}\text{C}$

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

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	μA
		$T_C = 110^{\circ}\text{C}$			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	μA
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

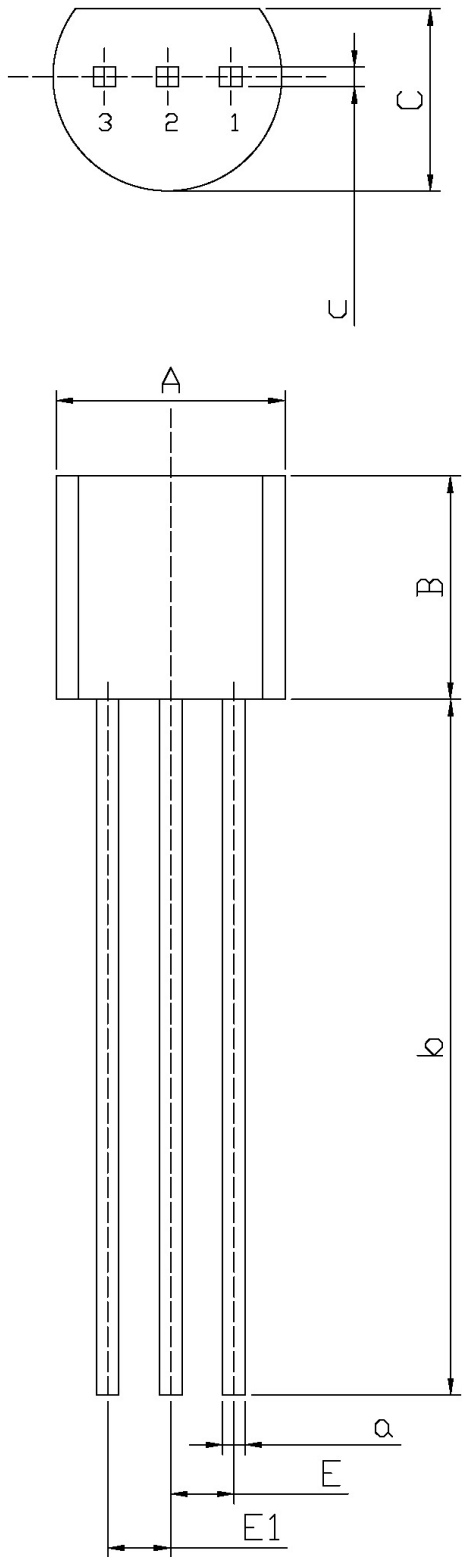
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

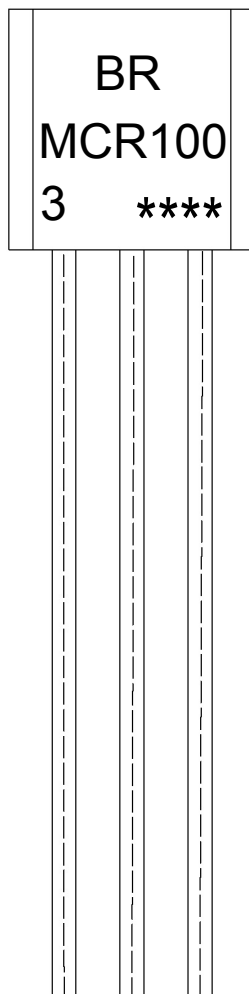
TO-92

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

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:

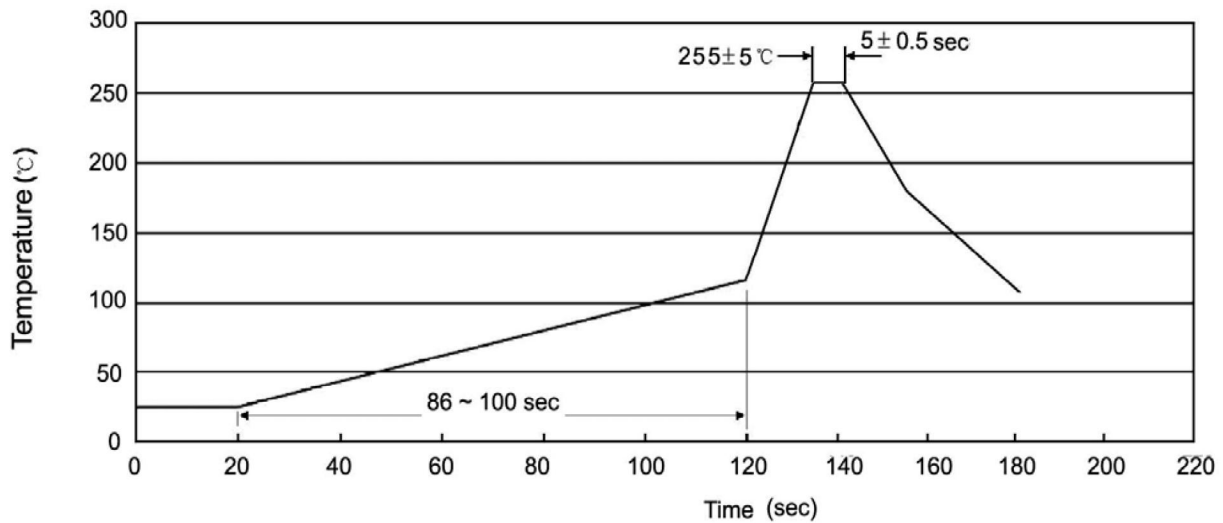
BR: Company Code.

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