

描述 / Descriptions

SOT-89 塑封封装单向可控硅。 Thyristor in a SOT-89 Plastic Package.

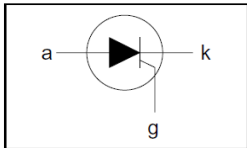
特征 / Features

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

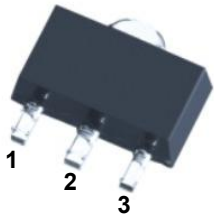
用途 / Applications

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 : Gate PIN 2 : Anode PIN 3 : Cathode

印章代码 / Marking

Model	MCR100T-3	MCR100T-4	MCR100T-6	MCR100T-8
Marking	H103 $\frac{3}{\times}$	H104 $\frac{4}{\times}$	H106 $\frac{6}{\times}$	H108 $\frac{8}{\times}$

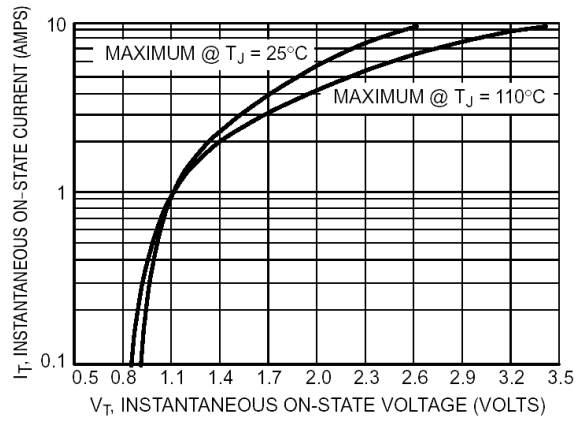
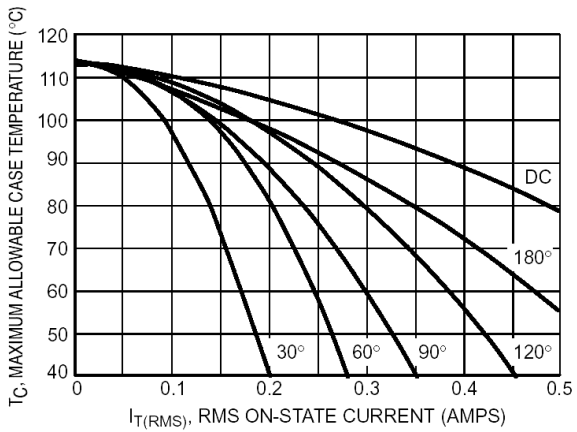
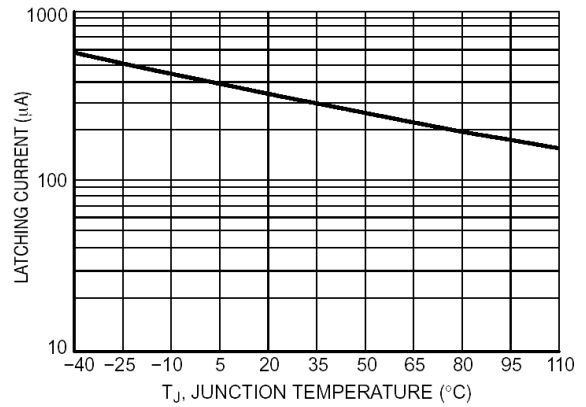
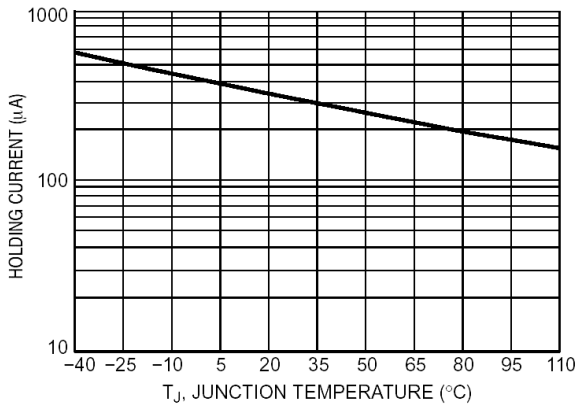
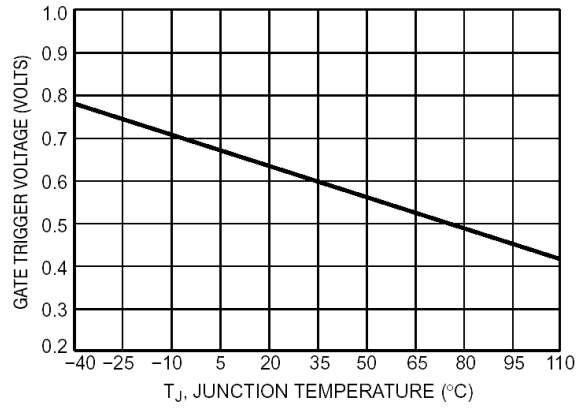
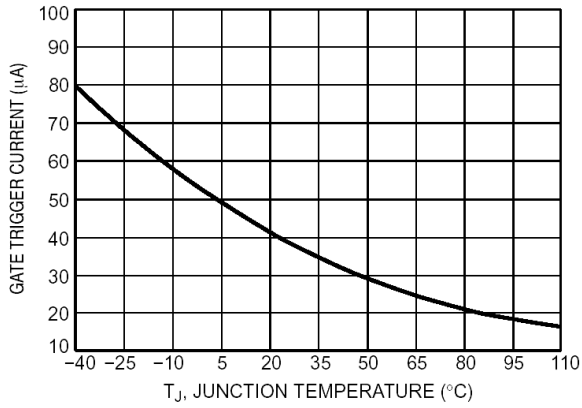
极限参数 / Absolute Maximum Ratings(Ta=25°C)

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°C , Sine Wave, 50 to 60Hz, Gate Open		V
Peak Repetitive Off-State Voltage	V_{RRM}	MCR 100T-3 MCR 100T-4 MCR 100T-6 MCR 100T-8	100 200 400 600	
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_t^2	$t = 8.3\text{ms}$	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
Average gate 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 Gate Voltage – Reverse	V_{GRM}	$T_A = 25^\circ\text{C}$, Pulse Width $\leq 1.0\mu\text{s}$	5.0	V
Junction Temperature	T_j		-40~110	$^\circ\text{C}$
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}	$V_D = \text{Rated } V_{DRM} \text{ and } V_{RRM}, R_{GK} = 1\text{K}\Omega$	$T_c = 25^\circ\text{C}$		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	
Latching 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	
Critical rate of rise of off-state voltage	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 On-State Current	di/dt	$I_P K = 20\text{A}$; $I_{GT} = 20\text{mA}$ $P_W = 10\text{usec}$; $di/dt = 1\text{A/usec}$;			50	A/us

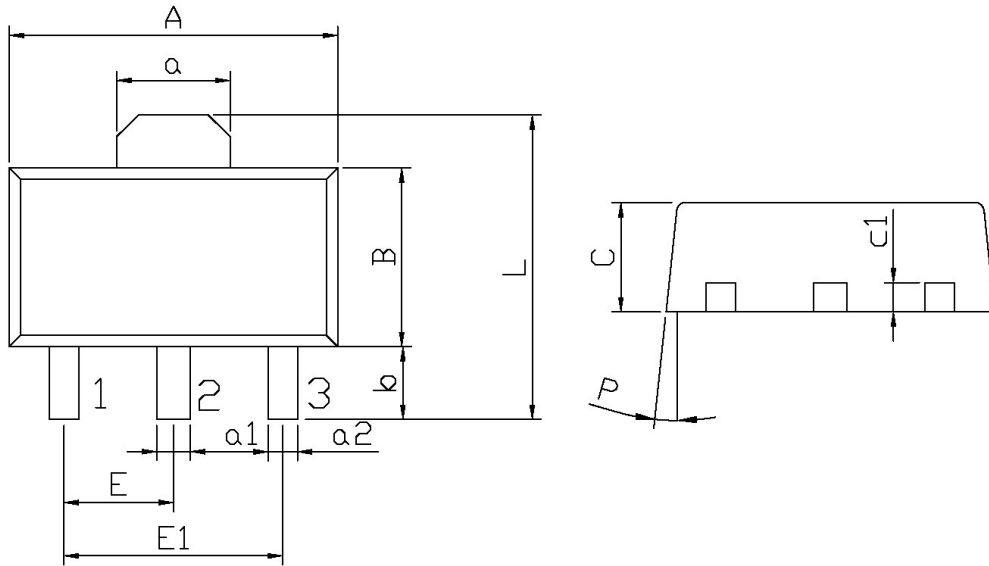
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

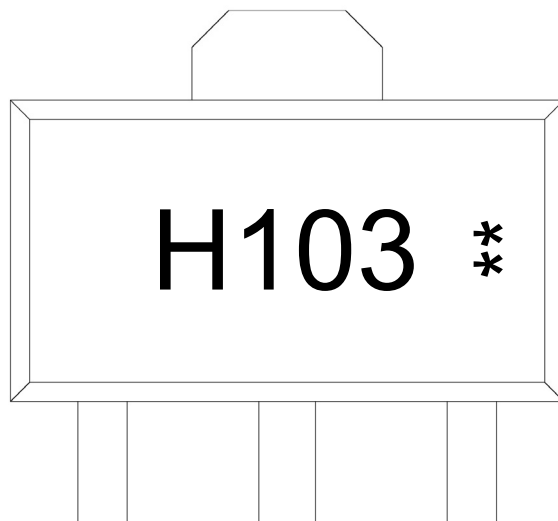
SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

H： 为公司代码

103： 为型号代码

**： 为生产批号代码，随生产批号变化。

Note:

H： Company Code.

103: Product Type.

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 25~150°C，时间 60~90sec;
- 2、峰值温度 245±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.:245±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.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-89	1,000	7	7,000	8	56,000	7" ×12	180×120×180	385×257×392

使用说明 / Notices