

描述 / Descriptions

SOT-89 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-89 Plastic Package.

特征 / Features

当 I_C 电流达到 600mA 时可作为功率放大和开关。

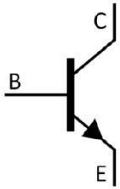
This device is for use as a medium power amplifier and switch requiring collector currents up to 600 mA.

用途 / Applications

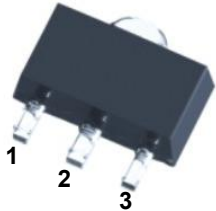
用于普通放大。

General purpose amplifier.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : Base PIN 2 : Collector PIN 3 : Emitter

印章代码 / Marking

h_{FE} Range	100~300
Marking	H1P*

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

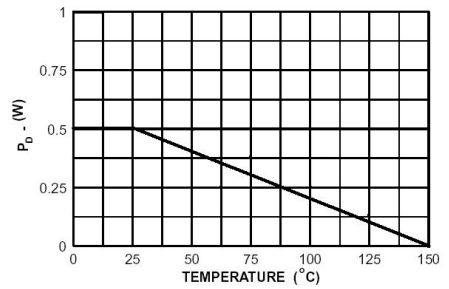
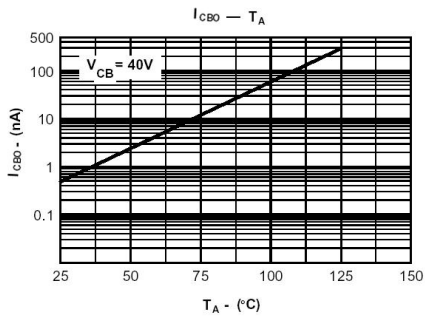
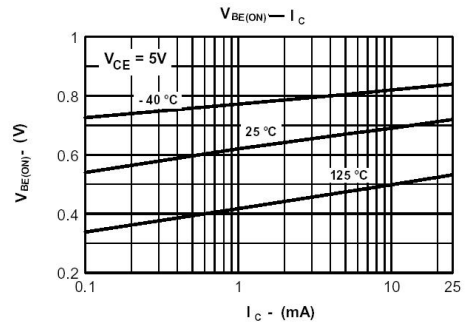
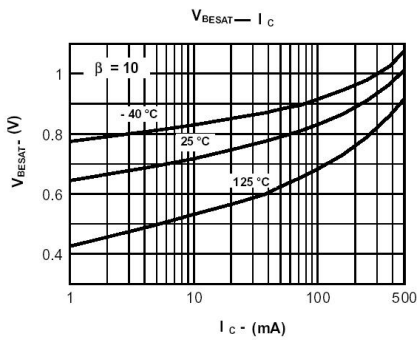
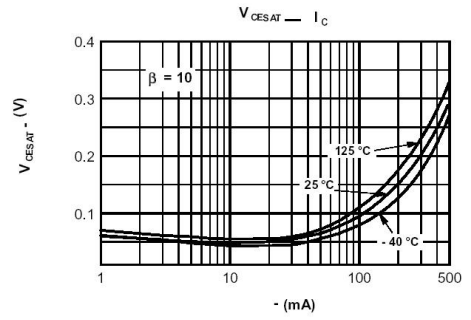
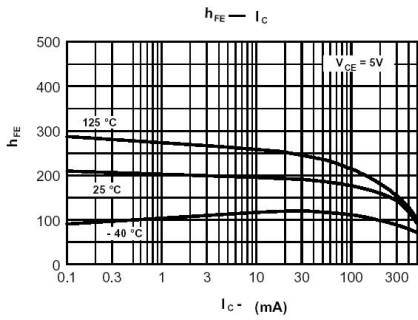
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V _{CBO}	75	V
Collector to Emitter Voltage	V _{CEO}	40	V
Emitter to Base Voltage	V _{EBO}	6.0	V
Collector Current - Continuous	I _C	600	mA
Collector Power Dissipation	P _C	500	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55~150	°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
Collector to Base Breakdown Voltage	V _{CBO}	I _C =10μA I _E =0	75			V
Collector to Emitter Breakdown Voltage	V _{CEO}	I _C =10mA I _B =0	40			V
Emitter to Base Breakdown Voltage	V _{EBO}	I _E =10μA I _C =0	6.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =60V I _E =0			0.01	μA
Base Cut-Off Current	I _{EBO}	V _{EB} =5.0V I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =10V I _C =150mA*	100		300	
Collector to Emitter Saturation Voltage	V _{CE(sat) (1)}	I _C =150mA I _B =15mA			0.3	V
	V _{CE(sat) (2)}	I _C =500mA I _B =50mA			1.0	V
Emitter to Base Saturation Voltage	V _{BE(sat) (1)}	I _C =150mA I _B =15mA	0.6		1.2	V
	V _{BE(sat) (2)}	I _C =500mA I _B =50mA			2.0	V
Collector Output Capacitance	C _{ob}	V _{CB} =10V f=1.0MHz I _E =0			8.0	pF
Transition Frequency	f _T	I _C =20mA V _{CE} =20V f=100MHz	300			MHz
Turn-On Time	t _{on}	V _{CC} =30V V _{BE} =-0.5V I _C =150mA I _{B1} =15mA			35	ns
Turn-Off Time	t _{off}	V _{CC} =30V I _C =150mA I _{B1} =I _{B2} =15mA			285	ns

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

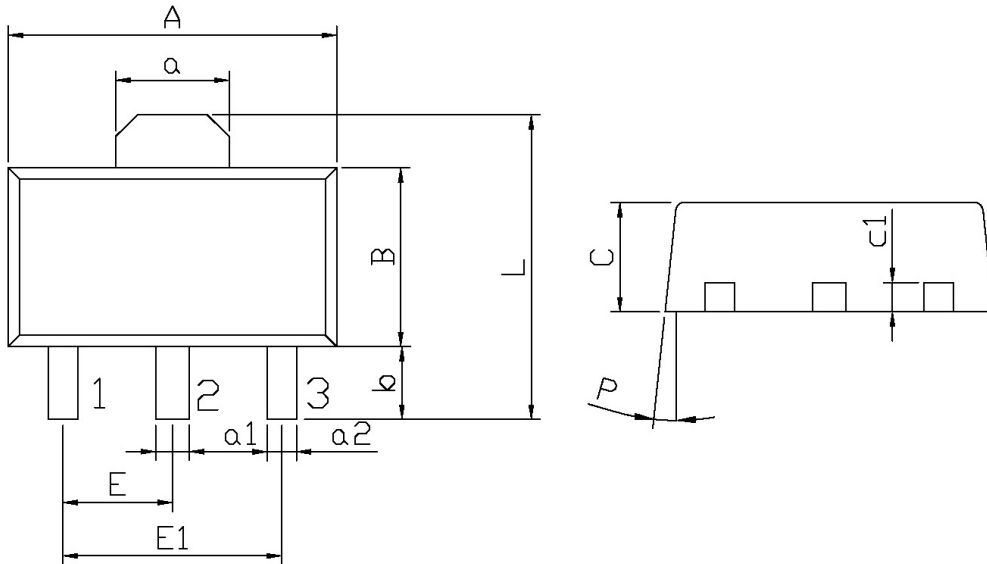
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

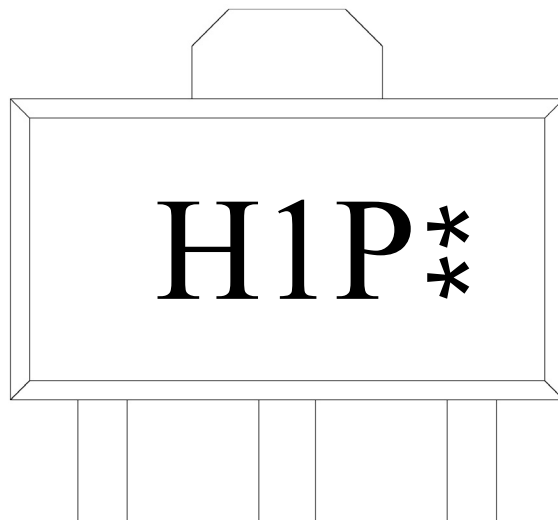
SOT-89

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

1P： 为型号代码

**： 为生产批号代码，随生产批号变化。

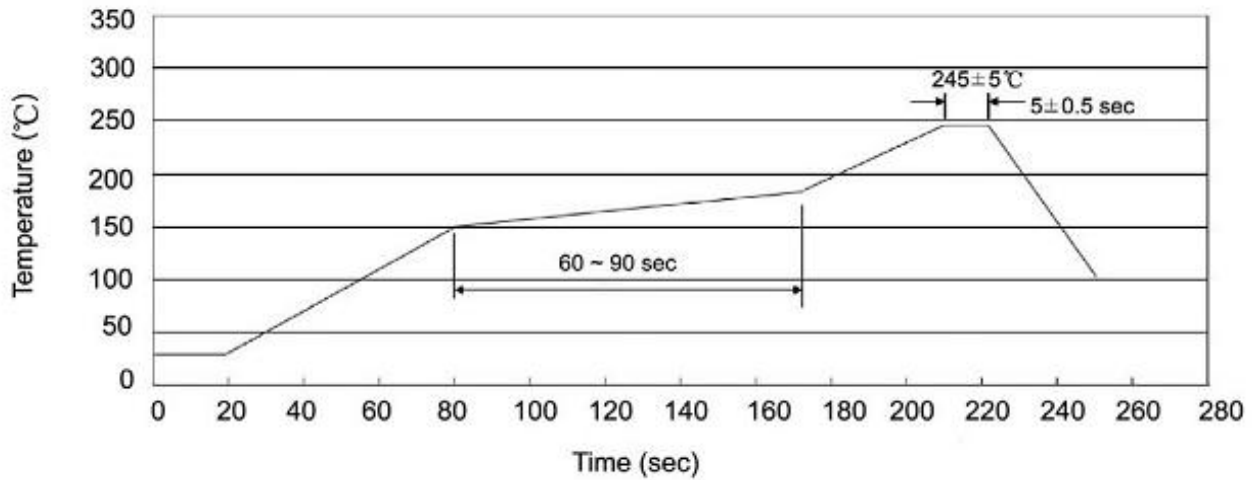
Note:

H: Company Code.

1P: 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 150 ~ 180°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:150~180°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：260±5°C

时间：10±1 sec.

Temp.:260±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" x12	180×120×180	385×257×392

使用说明 / Notices