

# MMBT2907AT

Rev.G Dec.-2024

## 描述 / Descriptions

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

## 特征 / Features

集电极电流可达 600mA，无卤产品。

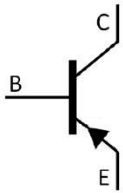
Collector currents to 600mA, HF Product.

## 用途 / Applications

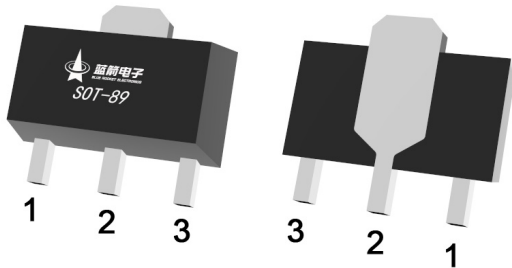
用于普通放大。

General purpose amplifier.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Base

PIN 2 : Collector

PIN 3 : Emitter

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

Marking	H2F *
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**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

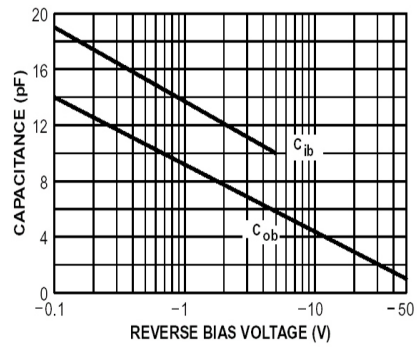
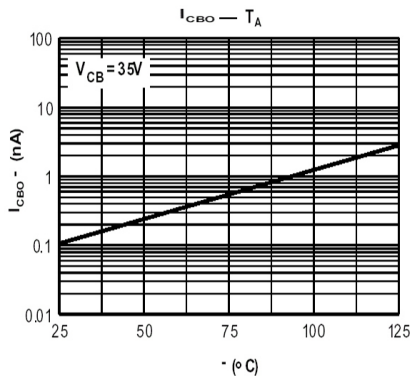
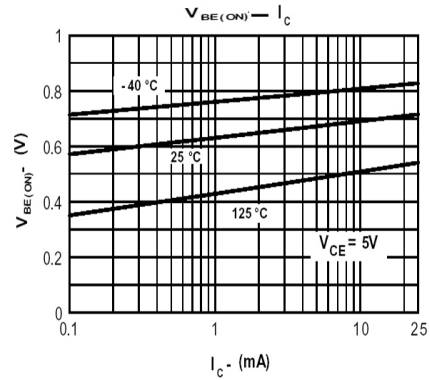
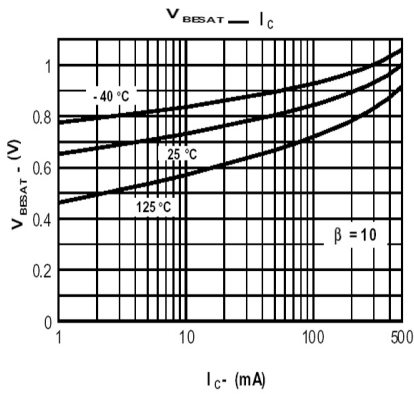
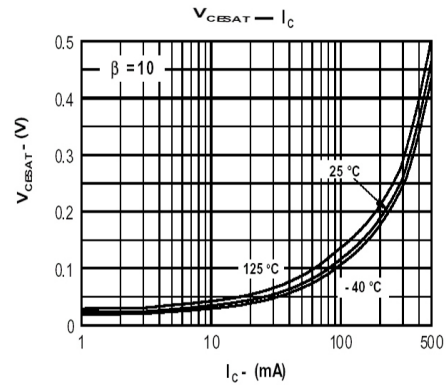
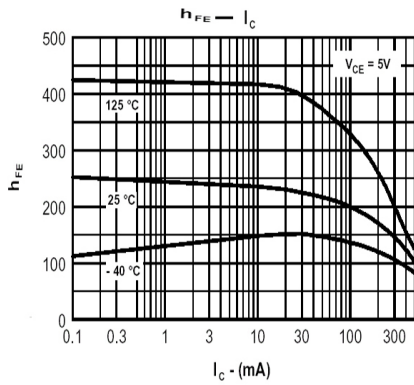
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V <sub>CBO</sub>	-60	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-60	V
Emitter to Base Voltage	V <sub>EBO</sub>	-5.0	V
Collector Current - Continuous	I <sub>C</sub>	-600	mA
Collector Power Dissipation	P <sub>C</sub>	500	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-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 <sub>CBO</sub>	I <sub>C</sub> =-10μA I <sub>E</sub> =0	-60			V
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =-10mA I <sub>B</sub> =0	-60			V
Emitter to Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =-10μA I <sub>C</sub> =0	-5.0			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-50V I <sub>E</sub> =0			-0.01	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-150mA*	100		300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-500mA*	50			
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-10mA	100			
	h <sub>FE(4)</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-1.0mA	100			
	h <sub>FE(5)</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-0.1mA	75			
Collector to Emitter Saturation Voltage	V <sub>CE(sat) (1)</sub>	I <sub>C</sub> =-150mA I <sub>B</sub> =-15mA			-0.4	V
	V <sub>CE(sat) (2)</sub>	I <sub>C</sub> =-500mA I <sub>B</sub> =-50mA			-1.6	V
Emitter to Base Saturation Voltage	V <sub>BE(sat) (1)</sub>	I <sub>C</sub> =-150mA I <sub>B</sub> =-15mA			-1.3	V
	V <sub>BE(sat) (2)</sub>	I <sub>C</sub> =-500mA I <sub>B</sub> =-50mA			-2.6	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V I <sub>C</sub> =-50mA f=100MHz	200			MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V I <sub>E</sub> =0 f=1.0MHz			8.0	pF
Turn-On Time	t <sub>on</sub>	V <sub>CC</sub> =-30V I <sub>C</sub> =-150mA I <sub>B1</sub> =-15mA			50	ns
Turn-Off Time	t <sub>off</sub>	V <sub>CC</sub> =-30V I <sub>C</sub> =-150mA I <sub>B1</sub> =I <sub>B2</sub> =-15mA			100	ns

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

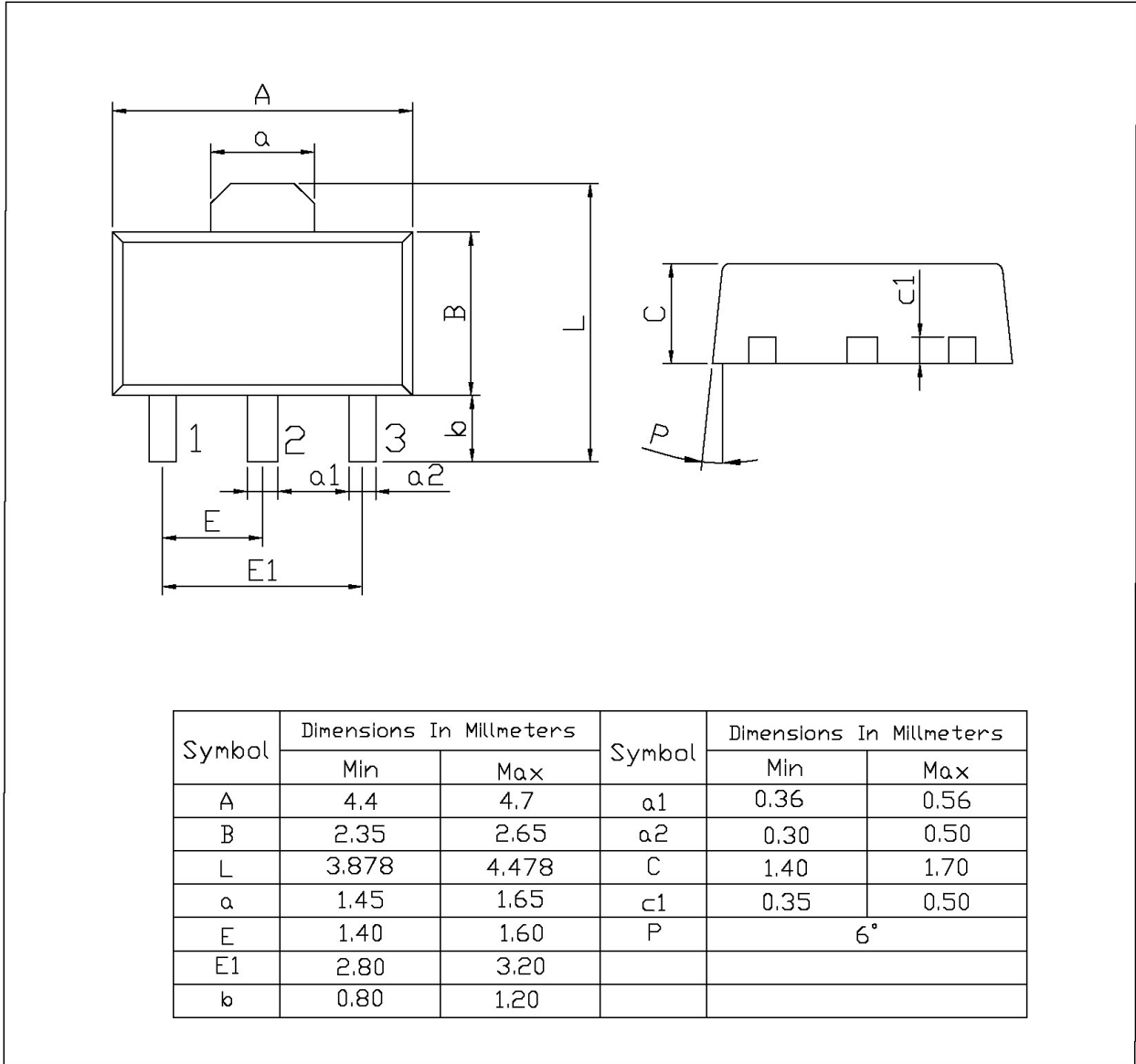
**电参数曲线图 / Electrical Characteristic Curve**



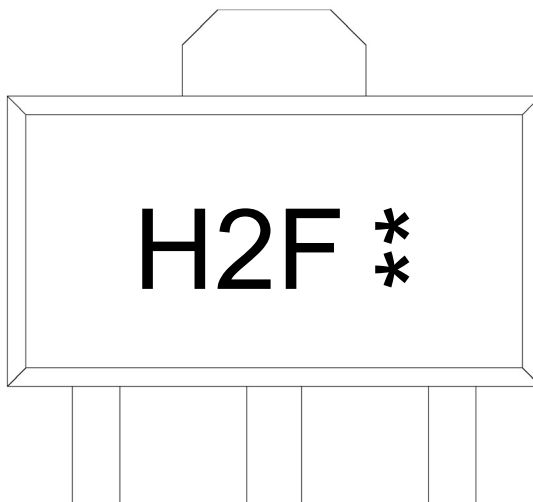
外形尺寸图 / Package Dimensions

SOT-89

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

2F： 为型号代码

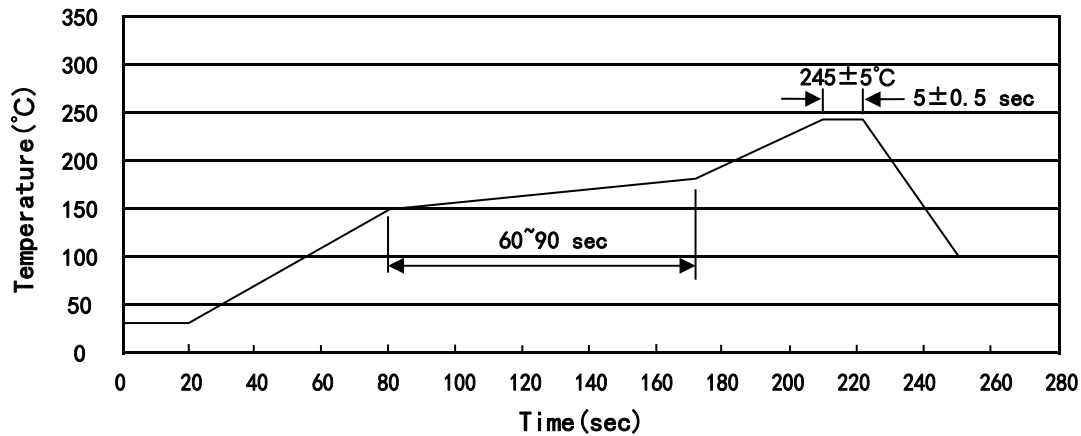
\*\*： 为生产批号代码，随生产批号变化

Note:

H: Company Code

2F: Product Type Code

\*\* : 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 <sup>3</sup> )		
	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	6	42,000	7" ×12	180×120×180	390×385×205

**使用说明 / Notices**