

# MJE13003FT

Rev.E Mar.-2016

## 描述 / Descriptions

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

## 特征 / Features

快速转换。

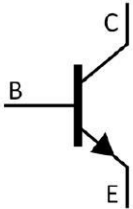
High Speed Switching

## 用途 / Applications

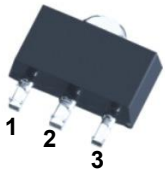
主要用于节能灯、日光灯电子镇流器及其它开关、振荡电路。

High frequency electronic lighting ballast applications,converters, inverters switching ,regulators, etc.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Base

PIN 2 : Collector

PIN 3 : Emitter

## 印章代码 / Marking

Marking	H03F * *
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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	$V_{CBO}$	600	V
Collector to Emitter Voltage	$V_{CEO}$	400	V
Emitter to Base Voltage	$V_{EBO}$	9.0	V
Collector Current - Continuous	$I_C$	0.5	A
Collector Power Dissipation	$P_C$	500	mW
Collector Power Dissipation	* $P_C$	1.0	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

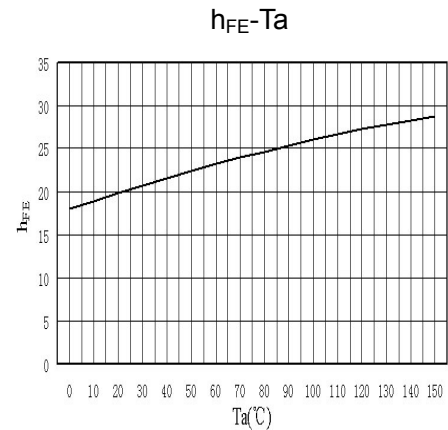
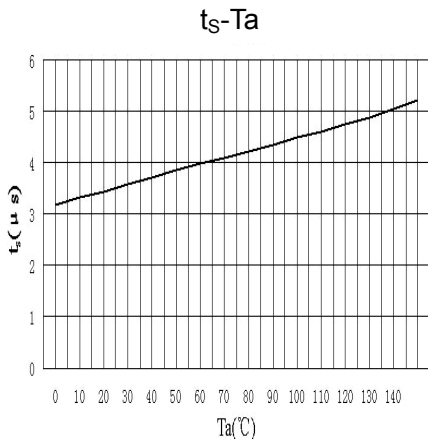
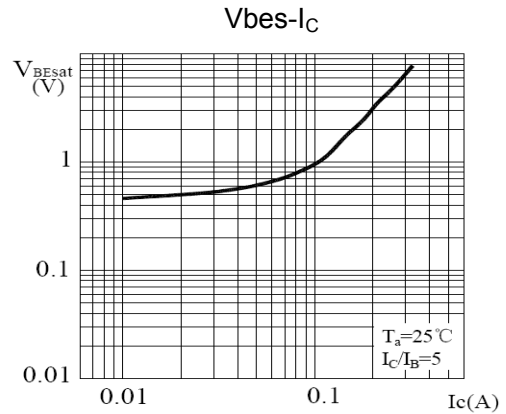
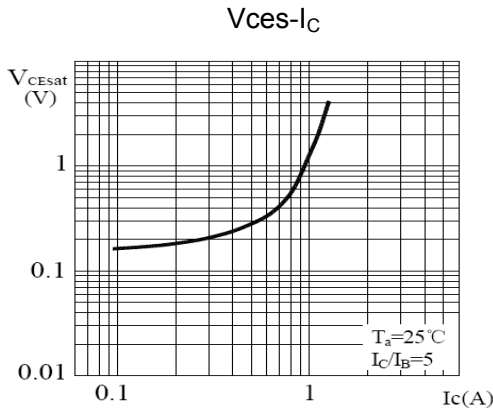
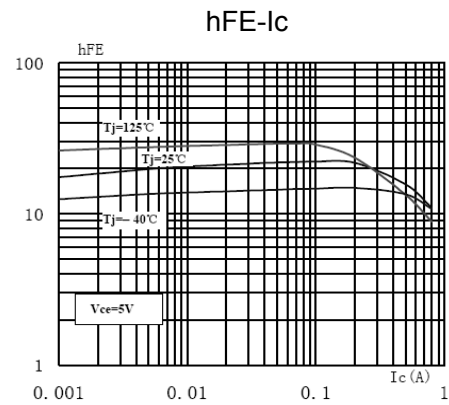
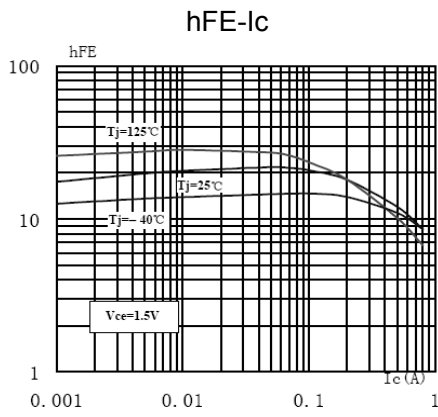
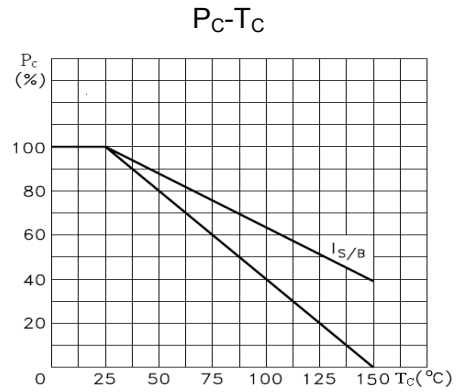
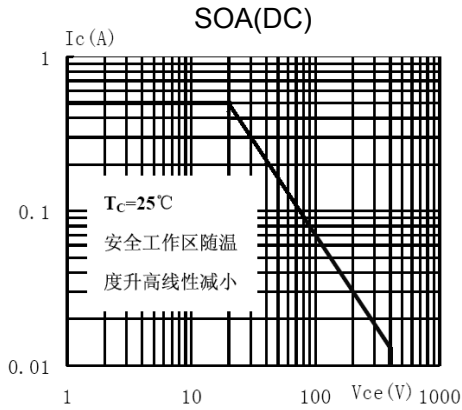
\*mounted on ceramic substrate(250mm<sup>2</sup>×0.8t)

\*贴装于 250mm<sup>2</sup>×0.8t 的陶瓷板上。

**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-Base Voltage	$V_{CBO}$	$I_C=1mA$ $I_E=0$	600			V
Collector-Emitter Voltage	$V_{CEO}$	$I_C=10mA$ $I_B=0$	400			V
Emitter-Base Voltage	$V_{EBO}$	$I_E=1mA$ $I_C=0$	9.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=600V$ $I_E=0$			0.1	mA
Collector cut-off current	$I_{CEO}$	$V_{CE}=400V$ $I_B=0$			0.1	mA
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=9.0V$ $I_C=0$			0.1	mA
DC Current Gain	$h_{FE}$	$V_{CE}=5.0V$ $I_C=200mA$	10		40	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA$ $I_B=40mA$			0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=200mA$ $I_B=40mA$			1.2	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=50mA$ $f=1.0MHz$	5.0			MHz
Fall time	$t_f$	$V_{CE}=5V$ $I_C=100mA$ (UI9600)			0.6	μs
Storage time	$t_s$				4.0	μs

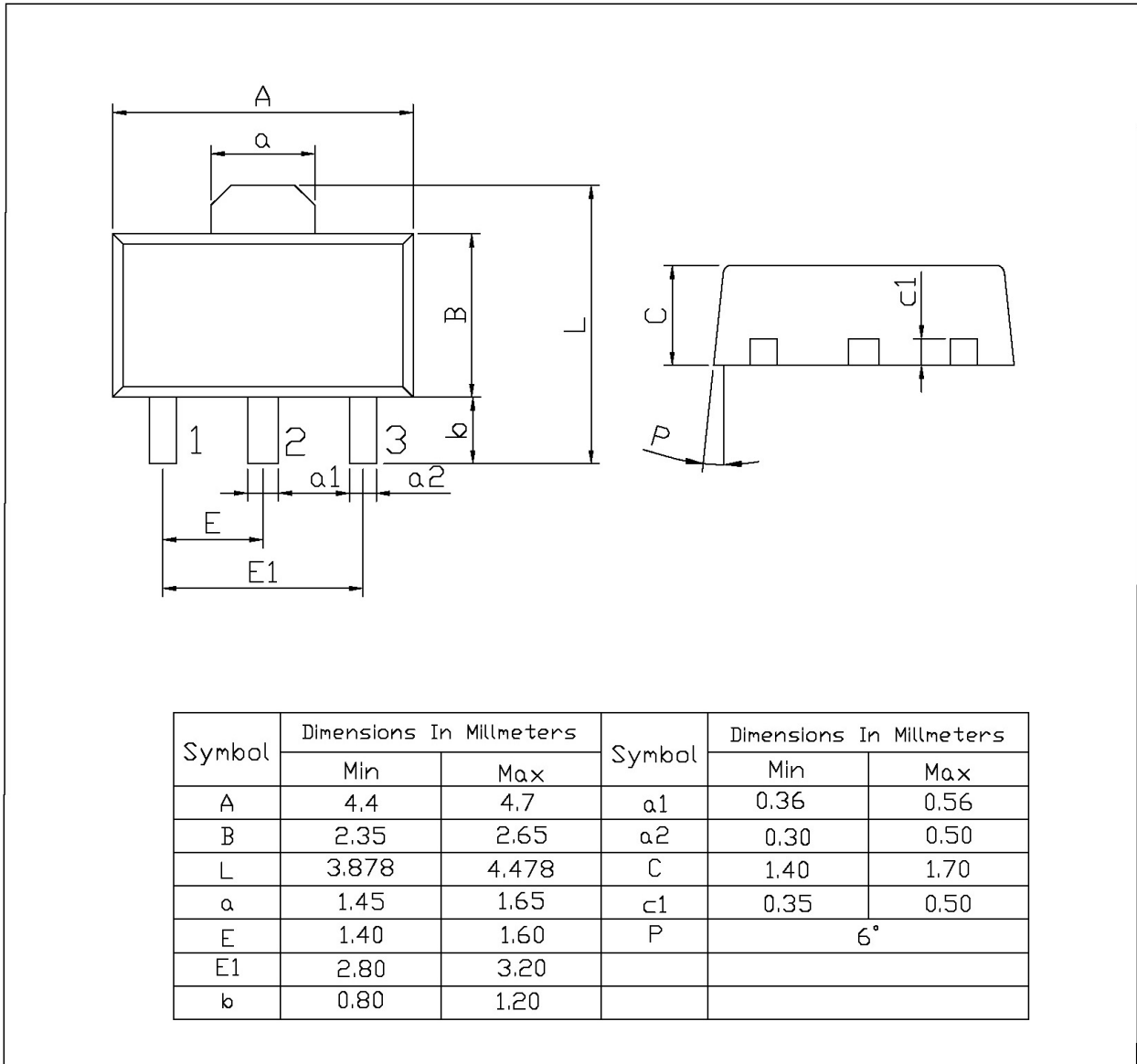
电参数曲线图 / Electrical Characteristic Curve



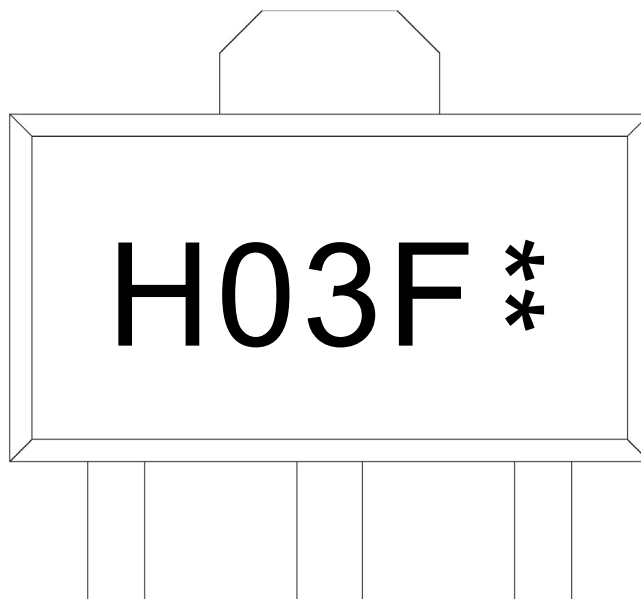
外形尺寸图 / Package Dimensions

SOT-89

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

03F： 为型号代码

\*\*： 为生产批号代码，随生产批号变化

Note:

H: Company Code.

03F: 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：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	8	56,000	7" x12	180×120×180	385×257×392

**使用说明 / Notices**