

# MJE13007X9

Rev.E Mar.-2016

## 描述 / Descriptions

TO-3P 塑封封装 NPN 半导体三极管。Silicon NPN Transistor in a TO-3P Plastic Package.

## 特征 / Features

快速转换。

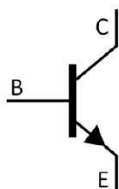
High Speed Switching

## 用途 / Applications

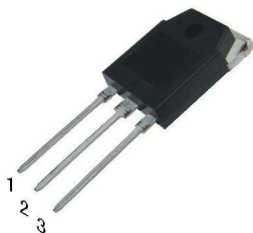
用于高频电子照明电路、开关及开关电源。

High frequency electronic lighting, switching power supply applications.

## 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

见印章说明。See Marking Instructions.

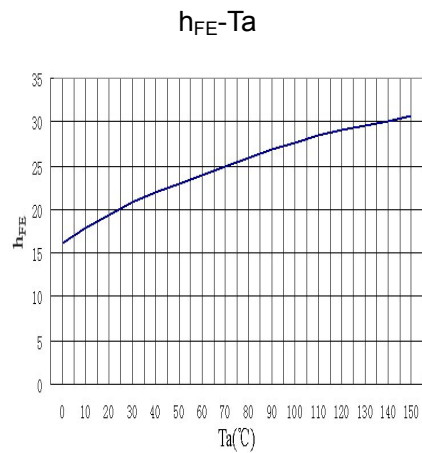
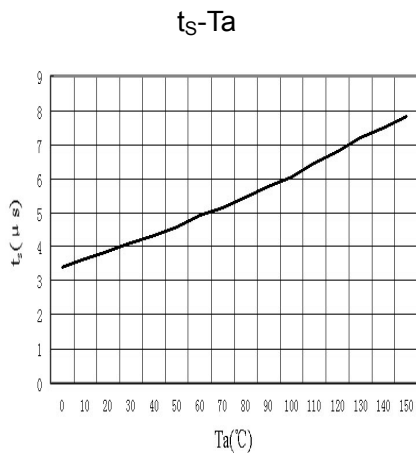
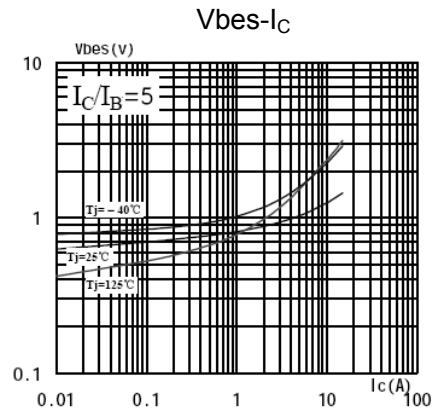
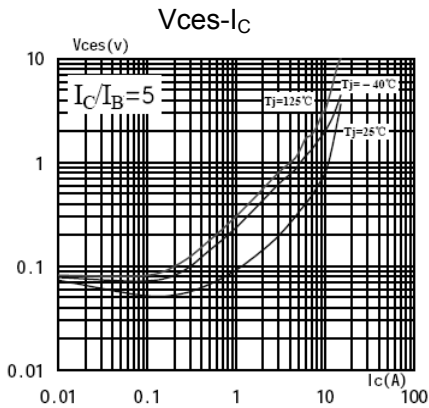
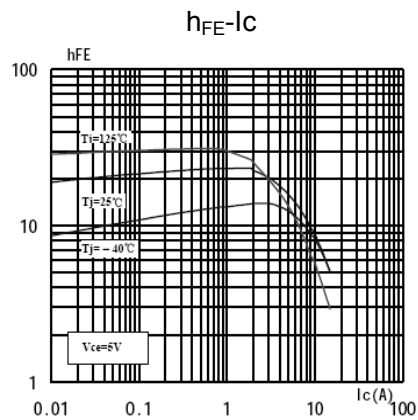
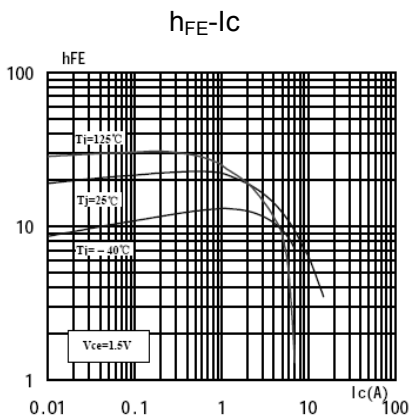
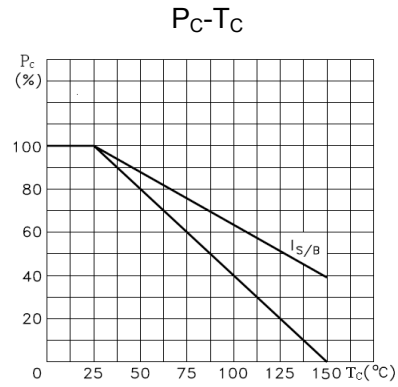
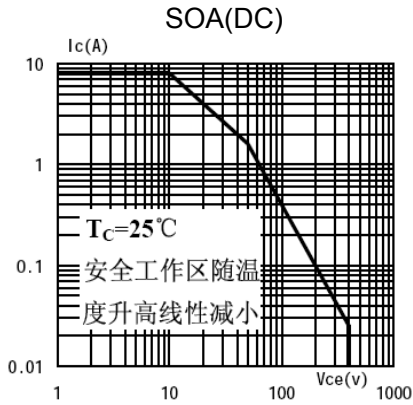
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	$V_{CBO}$	700	V
Collector to Emitter Voltage	$V_{CEO}$	400	V
Emitter to Base Voltage	$V_{EBO}$	9.0	V
Collector Current - Continuous	$I_C$	8.0	A
Collector Power Dissipation	$P_C$	2.0	W
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	90	W
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 Voltage	$V_{CBO}$	$I_C=1\text{mA}$ $I_E=0$	700			V
Collector to Emitter Voltage	$V_{CEO}$	$I_C=10\text{mA}$ $I_B=0$	400			V
Emitter to Base Voltage	$V_{EBO}$	$I_E=1\text{mA}$ $I_C=0$	9.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=700\text{V}$ $I_E=0$			0.1	mA
Collector cut-off current	$I_{CEO}$	$V_{CE}=400\text{V}$ $I_B=0$			0.1	mA
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=9.0\text{V}$ $I_C=0$			0.1	mA
DC Current Gain	$h_{FE}$	$V_{CE}=5.0\text{V}$ $I_C=2.0\text{A}$	10		40	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=8.0\text{A}$ $I_B=2.0\text{A}$			1.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=8.0\text{A}$ $I_B=2.0\text{A}$			1.5	V
Transition Frequency	$f_T$	$V_{CE}=10\text{V}$ $f=1.0\text{MHz}$ $I_C=0.5\text{A}$	5.0			MHz
Fall time	$t_f$	$V_{CE}=5\text{V}$ $I_C=0.5\text{A}$ (UI9600)			0.8	μs
Storage time	$t_s$		4.0		9.0	μs

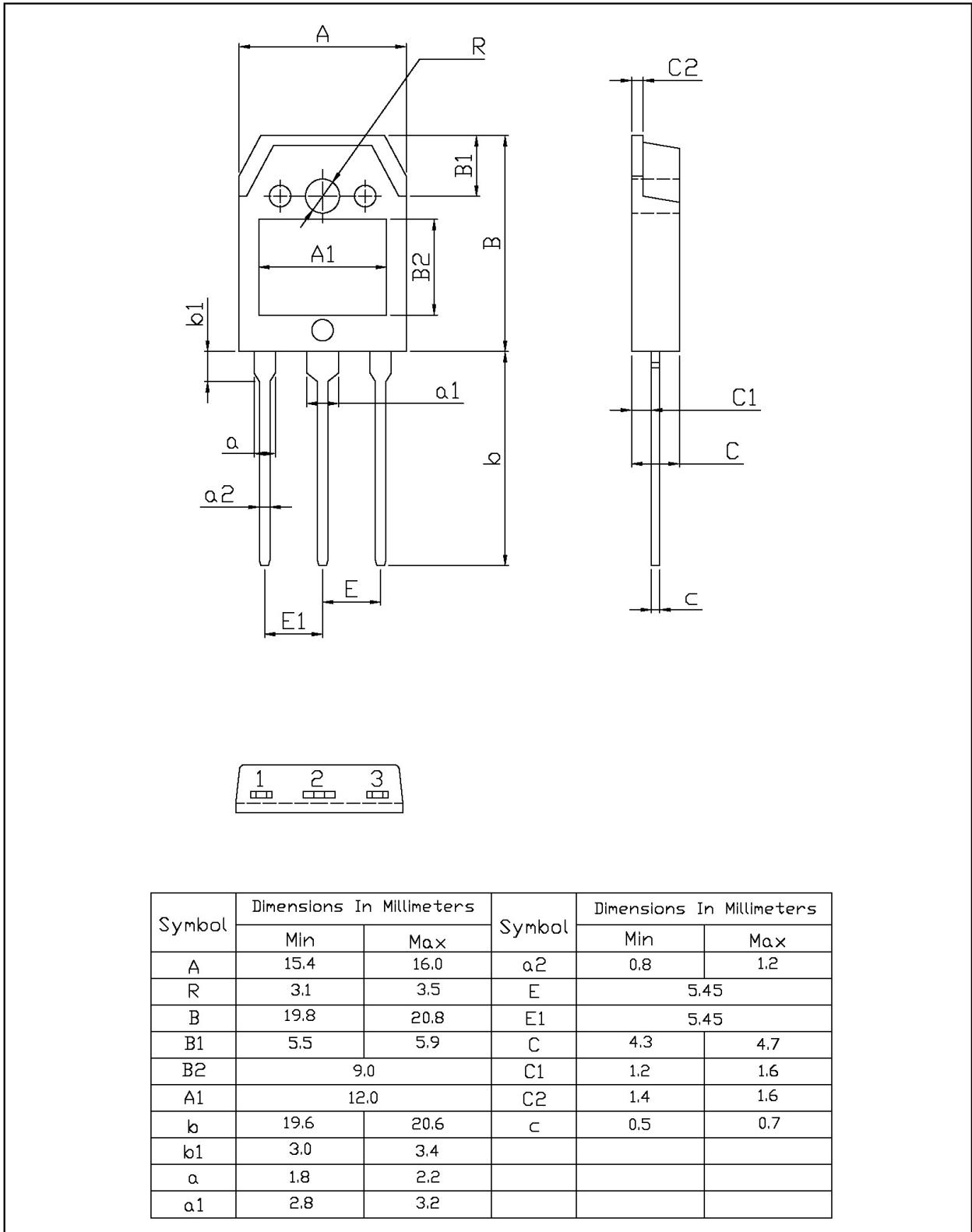
电参数曲线图 / Electrical Characteristic Curve



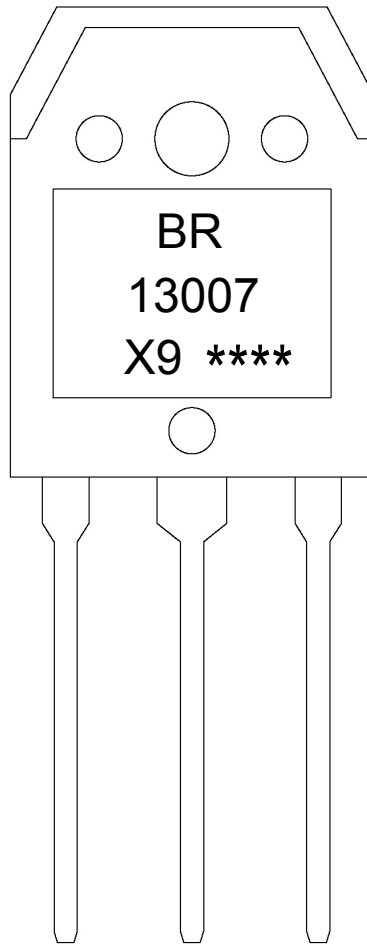
外形尺寸图 / Package Dimensions

T0-3P

单位: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码  
13007： 为产品型号  
X9： 为规格代码  
\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.  
13007: Product Type.  
X9: Specifications 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.**

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-3P	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

**使用说明 / Notices**