

### 描述 / Descriptions

SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23 Plastic Package.

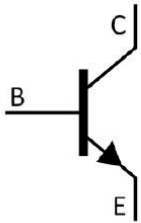
### 特征 / Features

特征频率高。  
High  $f_T$ .

### 用途 / Applications

用于低噪声超高频、特高频放大，集电极电流：100 $\mu$ A-20mA。  
Low noise UHF/VHF amplifiers, with collector currents in the 100 $\mu$ A to 20mA.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



PIN1 : Base      PIN 2 : Emitter      PIN 3 : Collector

### 印章代码 / Marking

$h_{FE}$ Range	>60
Marking	3EH

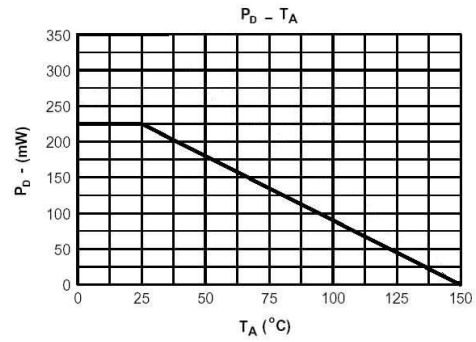
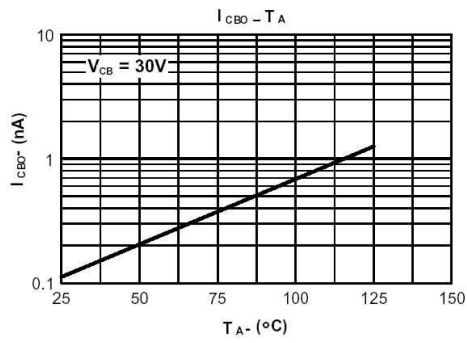
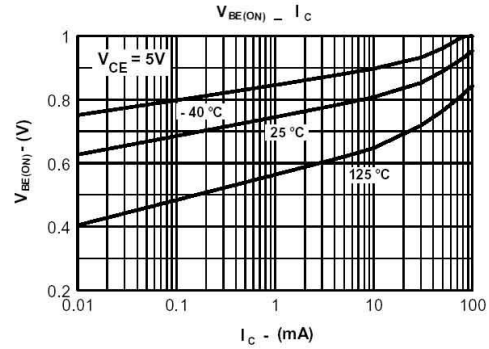
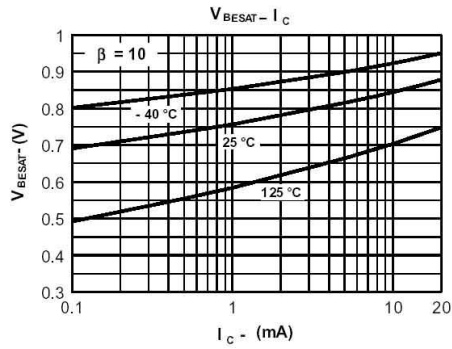
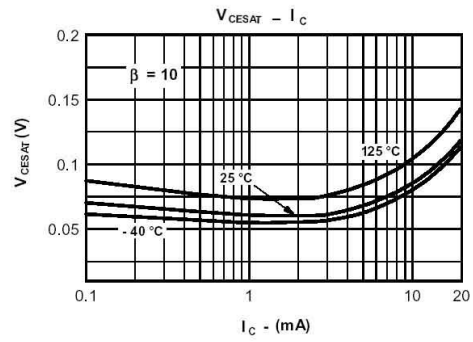
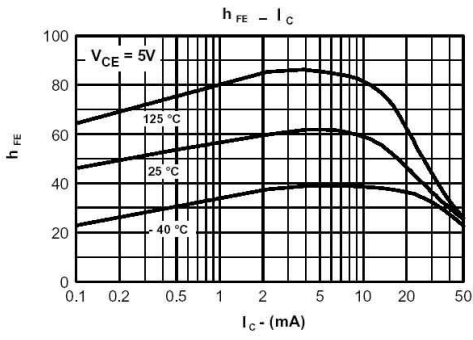
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	$V_{CBO}$	30	V
Collector to Emitter Voltage	$V_{CEO}$	25	V
Emitter to Base Voltage	$V_{EBO}$	3	V
Collector Current-Continuous	$I_C$	50	mA
Collector Power Dissipation	$P_C$	225	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	$V_{CBO}$	$I_C=100\mu A$ $I_E=0$	30			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	25			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=10\mu A$ $I_C=0$	3.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=25V$ $I_E=0$			0.1	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=2.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=10V$ $I_C=4.0mA$	60			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.0mA$ $I_B=0.4mA$			0.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=10V$ $I_C=4.0mA$			0.95	V
Transition Frequency	$f_T$	$I_C=4.0mA$ $V_{CE}=10V$ $f=100MHz$	650			MHz
Collector-Base Capacitance	$C_{cb}$	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			0.7	pF
Common-Base Feedback Capacitance	$C_{rb}$	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$	0.35		0.65	pF
Collector Base Time Constant	$\tau_{bc}$	$V_{CB}=10V$ $I_C=4.0mA$ $f=31.8MHz$			9.0	pS

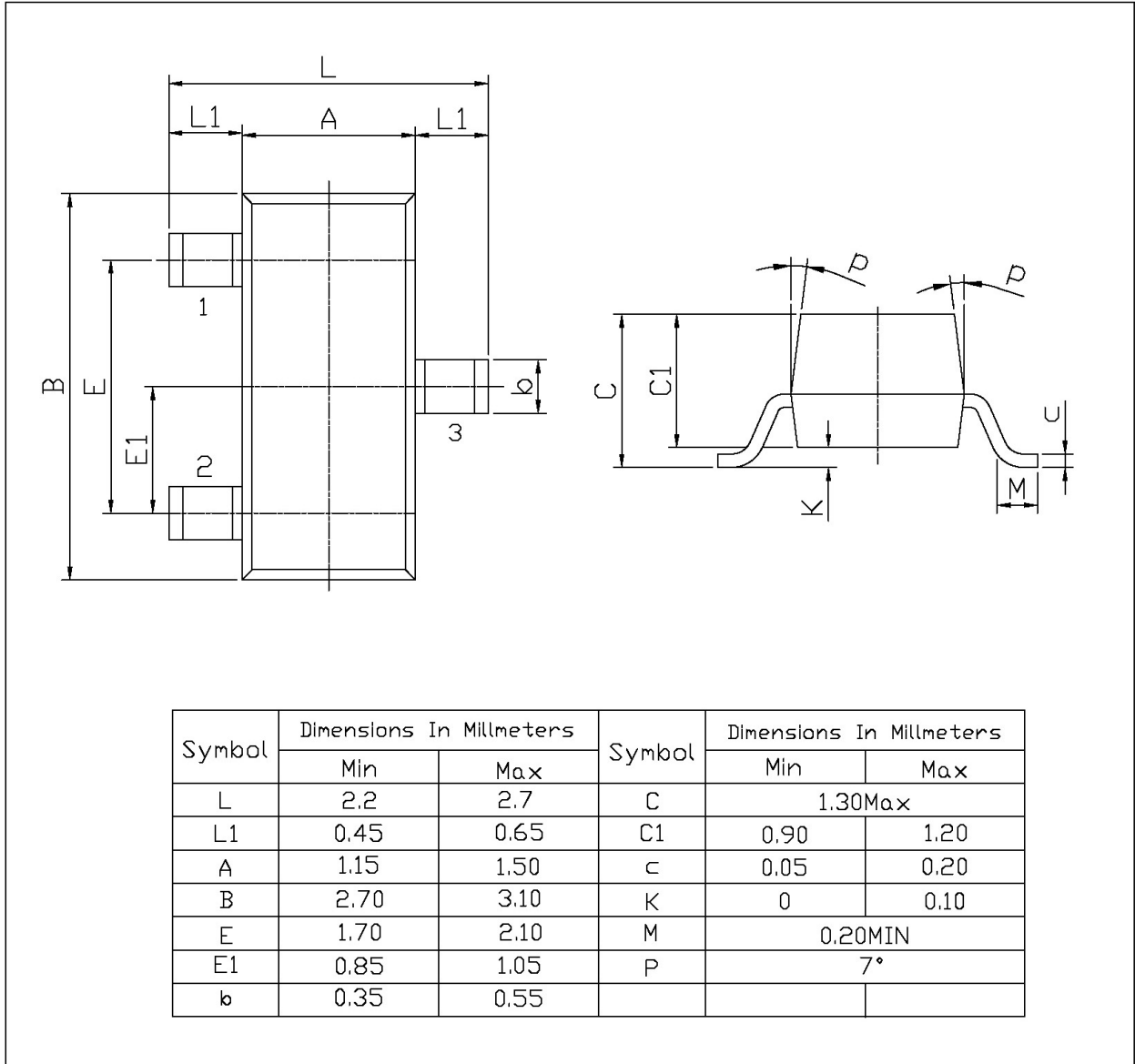
电参数曲线图 / Electrical Characteristic Curve



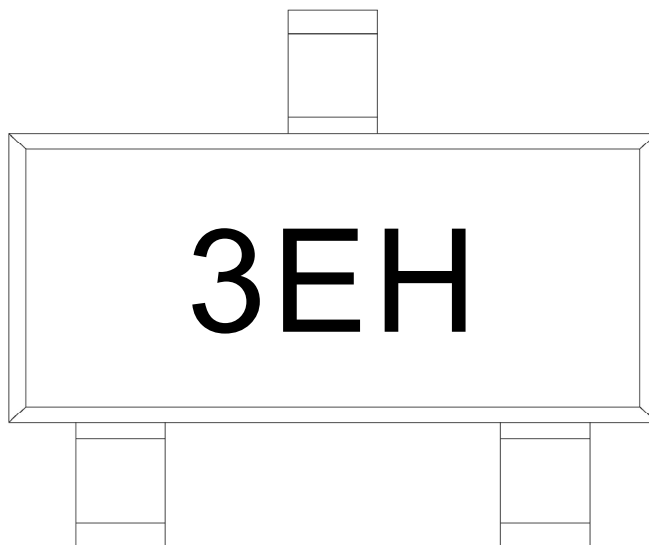
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

3E： 为型号代码

H： 为公司代码

Note:

3E: Product Type Code

H: Company Code.

**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-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

**使用说明 / Notices**