

描述 / Descriptions

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

特征 / Features

饱和压降小，直流电流增益高、线性好，集电极电流大，特征频率高。

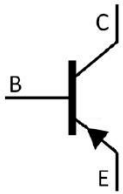
Low collector to emitter saturation voltage, excellent linearity of DC forward current Gain, high collector current, high gain band width product.

用途 / Applications

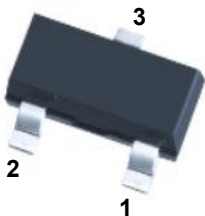
用于小型马达驱动、继电器及电源驱动。

Small type motor drive, relay drive, power supply.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Emitter PIN 2 : Base PIN 3 : Collector

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

h_{FE} Classifications Symbol	E	F	G
h_{FE} Range	150 ~ 300	250 ~ 500	400 ~ 800
Marking	HAE	HAF	HAG

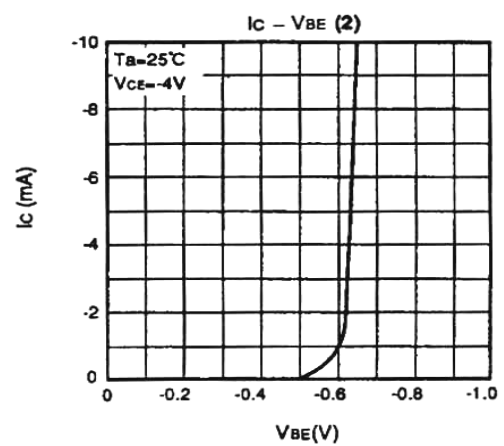
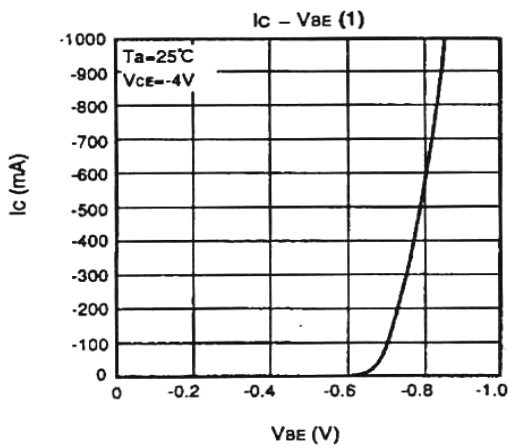
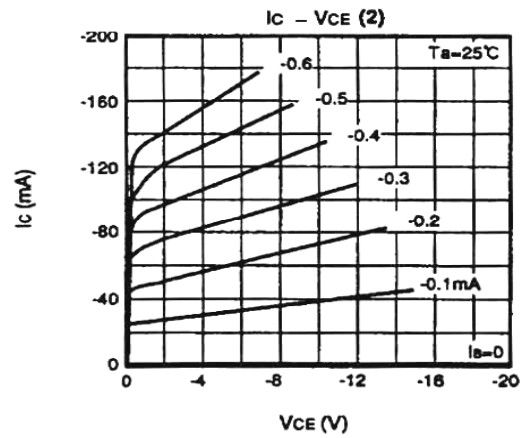
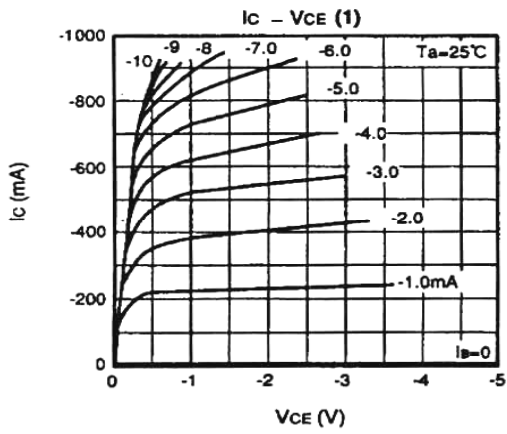
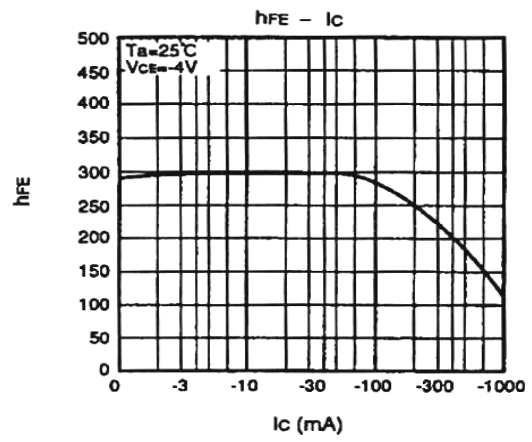
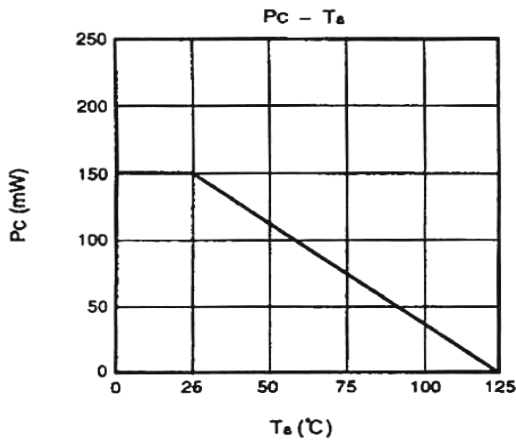
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-25	V
Collector to Emitter Voltage	V_{CEO}	-20	V
Emitter to Base Voltage	V_{EBO}	-4.0	V
Collector Current	I_C	-700	mA
Peak Current	I_{CM}	-1.0	A
Collector Power Dissipation	P_C	150	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-Base Breakdown Voltage	V_{CBO}	$I_C=-10\mu A$ $I_E=0$	-25			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=-100\mu A$ $R_{BE}=\infty$	-20			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=-10\mu A$ $I_C=0$	-4.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-25V$ $I_E=0$			-1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-2.0V$ $I_C=0$			-1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=-4.0V$ $I_C=-100mA$	150		800	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$ $I_B=-25mA$		-0.2	-0.5	V
Transition Frequency	f_T	$V_{CE}=-6.0V$ $I_E=10mA$		180		MHz

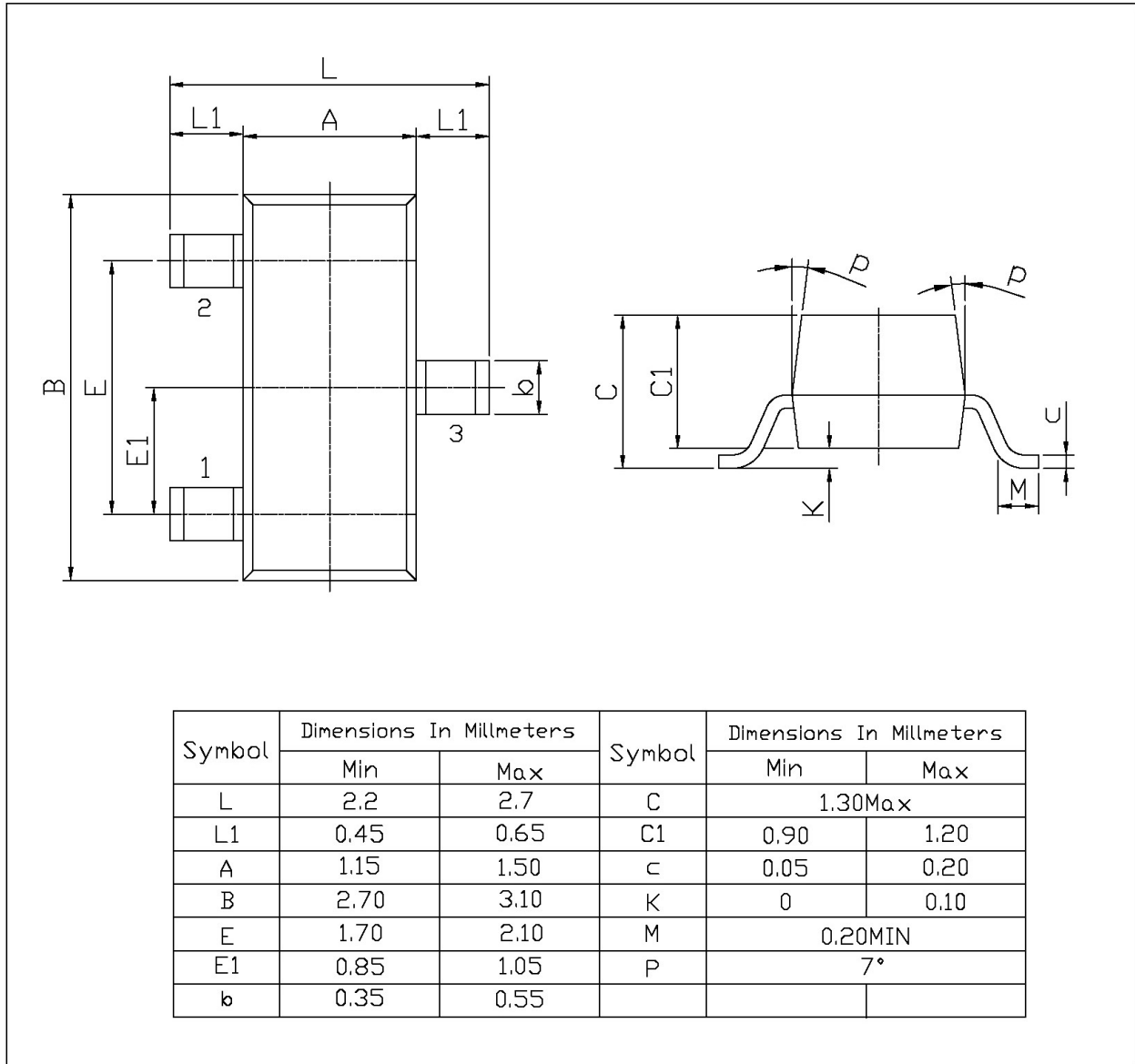
电参数曲线图 / Electrical Characteristic Curve



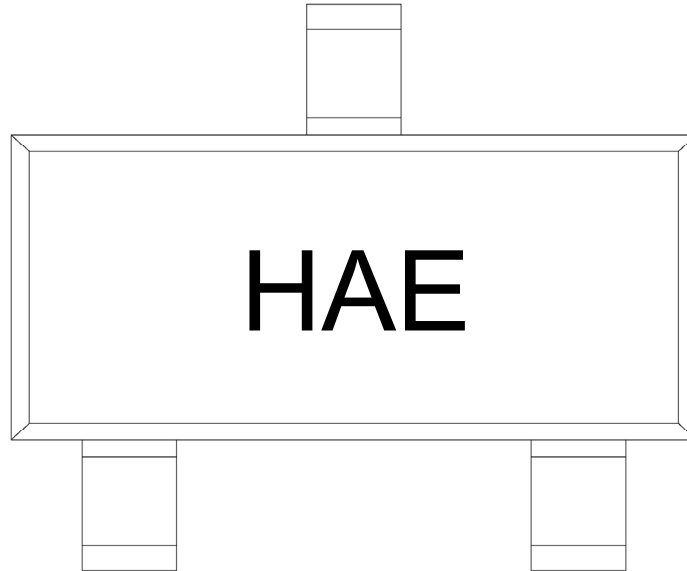
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

- H： 为公司代码
- A： 为型号代码
- E： 为 h_{FE} 档次代码

Note:

- H: Company Code.
- A: Product Type Code
- E: h_{FE} Classifications Symbol 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 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-23	3,000	10	30,000	8	240,000	7" x8	180×120×180	385×257×392

使用说明 / Notices