

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.

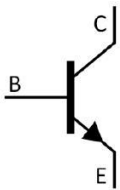
特征 / Features

频率高。
High frequency.

用途 / Applications

用于超高频频率转换,负载振荡器,宽频放大。
UHF frequency converter, local oscillator, wide band amplifier.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : Base PIN 2 : Emitter PIN 3 : Collector

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

h_{FE} Range	20~200
Marking	HGC

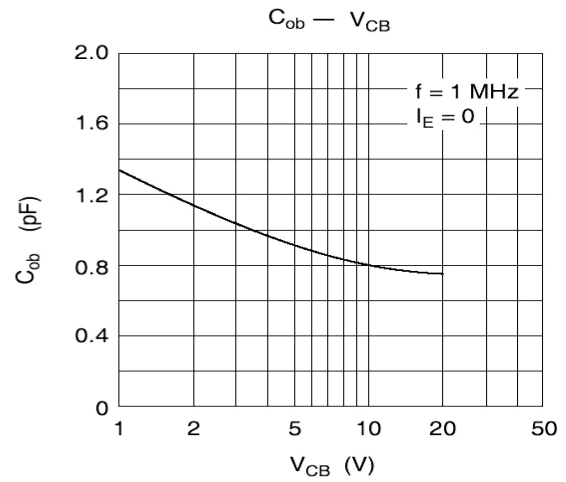
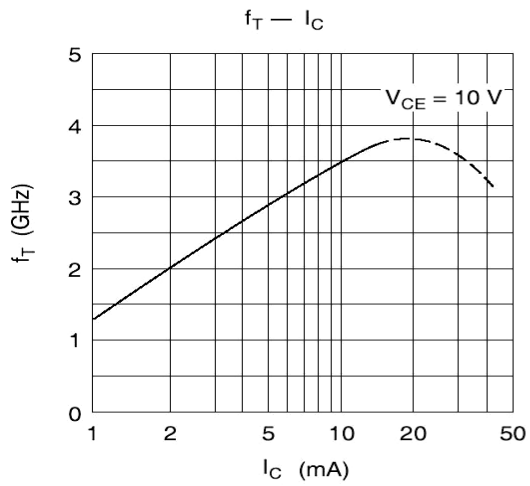
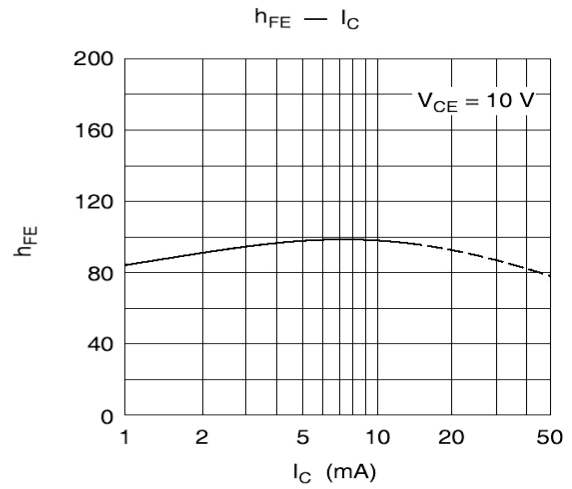
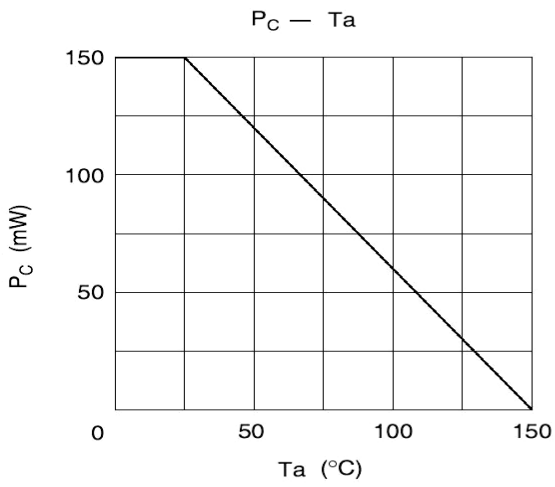
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V _{CBO}	20	V
Collector to Emitter Voltage	V _{CEO}	11	V
Emitter to Base Voltage	V _{EBO}	3.0	V
Collector Current	I _C	50	mA
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 =10μA I _E =0	20			V
Collector-Emitter Breakdown Voltage	V _{CEO}	I _C =1.0mA R _{BE} =∞	11			V
Emitter-Base Breakdown Voltage	V _{EBO}	I _E =10μA I _C =0	3.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =10V I _E =0			0.5	μA
Emitter Cut-Off Current	I _{EBO}	V _{CB} =2.0V I _E =0			0.5	μA
DC Current Gain	h _{FE}	V _{CE} =10V I _C =5.0mA	20	90	200	
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA I _B =5.0mA			0.7	V
Transition Frequency	f _T	V _{CE} =10V I _C =10mA	1400	3500		MHz
Collector output capacitance	C _{ob}	V _{CE} =10V I _E =0 f=1.0MHz		0.9	1.5	pF
Conversion Gain	CG	V _{CC} =6.0V I _C =2.0mA f=900MHz f _{OSC} =930MHz(0dBm) f _{out} =30MHz		15		dB
Noise Figure	NF	V _{CC} =6.0V I _C =2.0mA f=900MHz f _{OSC} =930MHz(0dBm) f _{out} =30MHz		9.0		dB
The Output Clock Supply Voltage	V _{OSC}	V _{CC} =6.0V I _C =5.0mA f=930MHz		140		mV

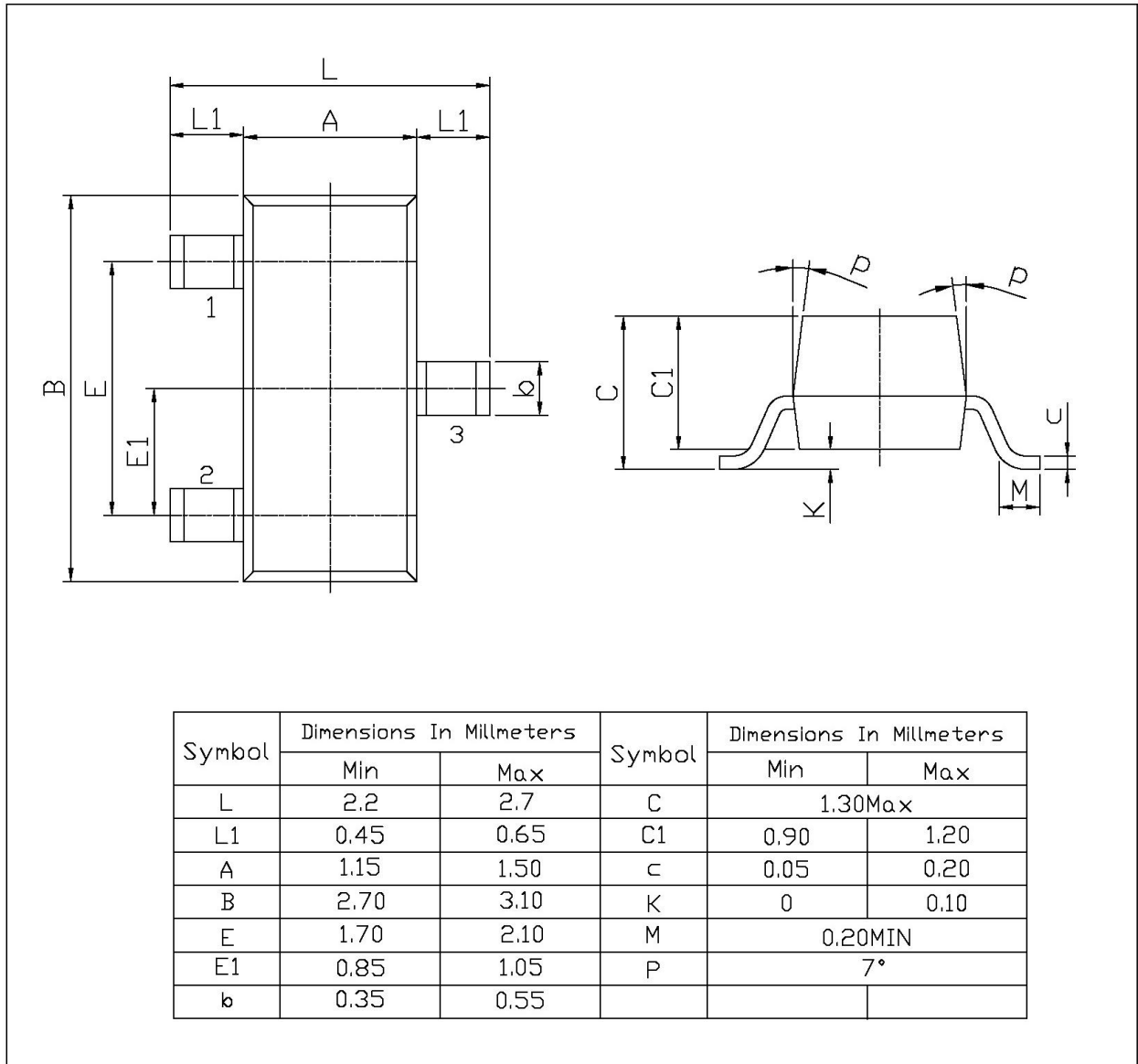
电参数曲线图 / Electrical Characteristic Curve



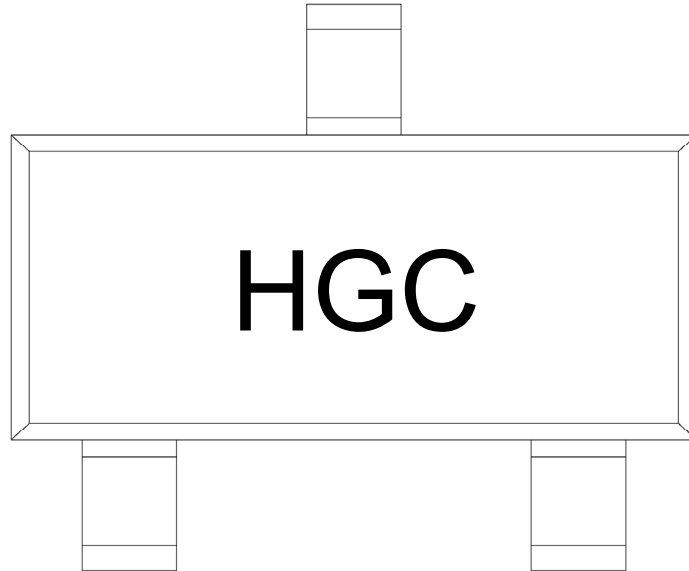
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

GC： 为型号代码

Note:

H： Company Code

GC： Product Type 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	6	180,000	7" x8	180×120×180	390×385×205

使用说明 / Notices