2SC3130

Rev.F Apr.-2017

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 f_T 高，共基极输出电容小和反向传输出电容小。

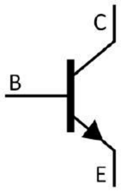
High f_T, small Cob and small Crb.

用途 / Applications

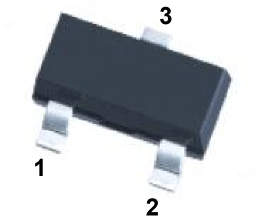
用于高频放大、振荡、混频。

High frequency amplifier, oscillation and mixing amplification.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1：Base　　PIN 2：Emitter　　PIN 3：Collector

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

h_{FE} Classifications Symbol	P	Q
h_{FE} Range	75～130	110～220
Marking	H1SP	H1SQ

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

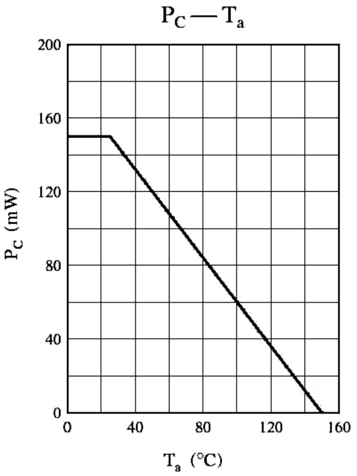
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	15	V
Collector to Emitter Voltage	V_{CEO}	10	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

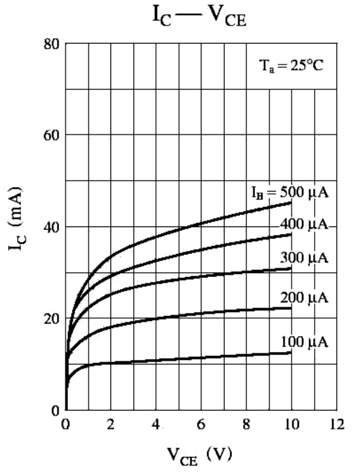
电性能参数 / Electrical Characteristics(Ta=25℃)

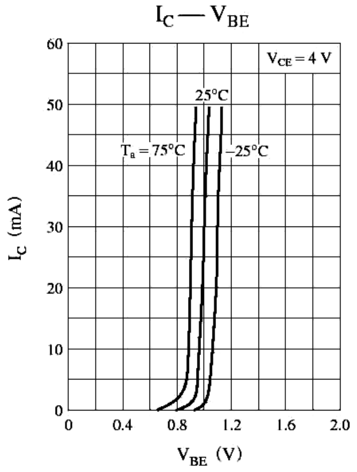
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector-emitter voltage	V_{CEO}	I_C=2.0mA I_B=0	10			V
Emitter-base voltage	V_{EBO}	I_C=10μA I_B=0	3.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=10V I_E=0			1.0	μA
DC Current Gain	h_{FE}	V_{CE}=4.0V I_c=5.0mA	75		220	
hFE ratio	*△h_{FE}	h_{FE}:V_{CE}=4.0V I_c=100μA	0.75		1.60	
		h_{FE}:V_{CE}=4.0V I_c=5.0mA				
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=20mA I_B=4.0mA			0.5	V
Transition Frequency	f_T	V_{CE}=4.0V I_C=-5.0mA f=200MHz	1.4	1.9	2.5	GHz
Collector output capacitance	C_{ob}	V_{CB}=4.0V I_E=0, f=1.0MHz		1.4		pF
Reverse transfer capacitance (Common emitter)	C_{rb}	V_{CB}=4.0V I_E=0, f=1.0MHz		0.45		pF
Collector-base parameter	rbb'Cc	V_{CB}=4.0V I_C=5.0mA f=31.9MHz		11		ps

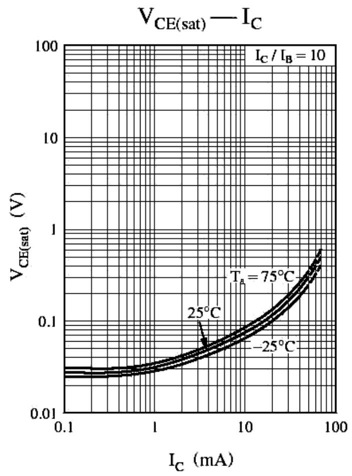
*△h_{FE}= h_{FE2}/h_{FE1}

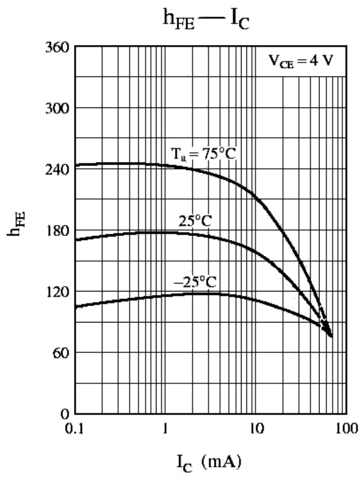
电参数曲线图 / Electrical Characteristic Curve

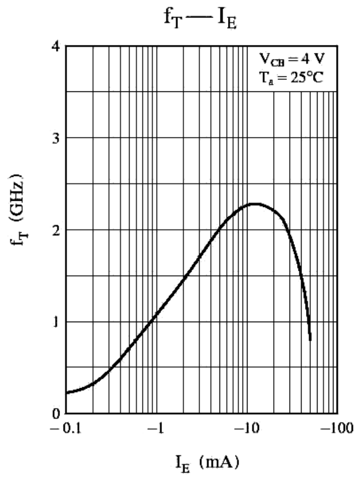


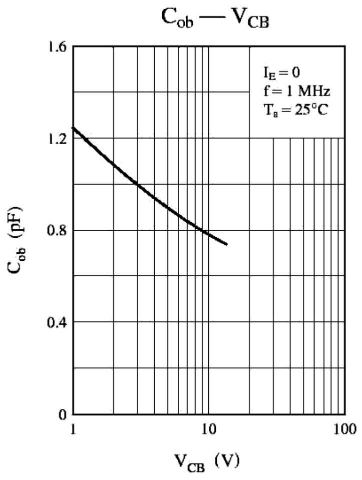






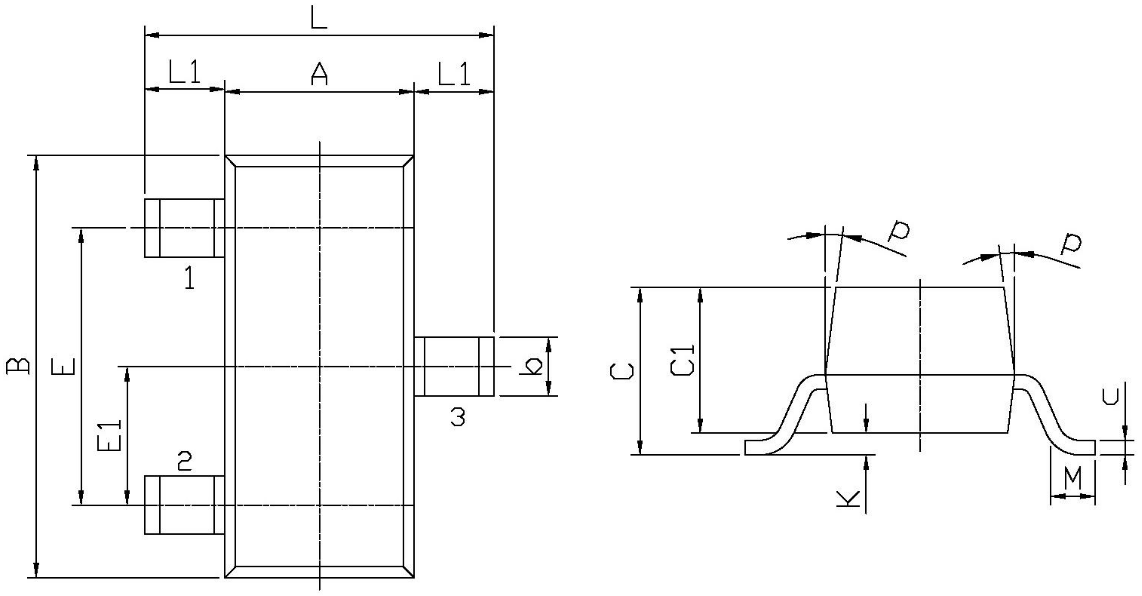






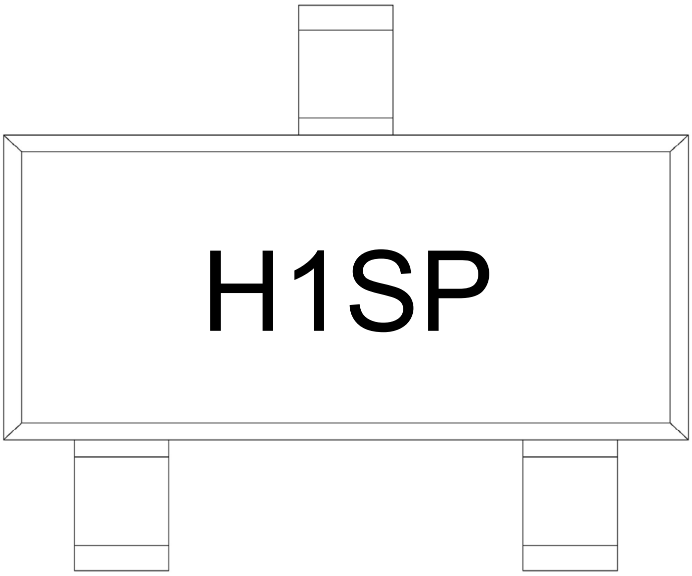
外形尺寸图 / Package Dimensions

SOT-23 单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

印章说明 / Marking Instructions



说明：

H： 为公司代码

1S： 为型号代码

P： 为 h_{FE} 档次代码

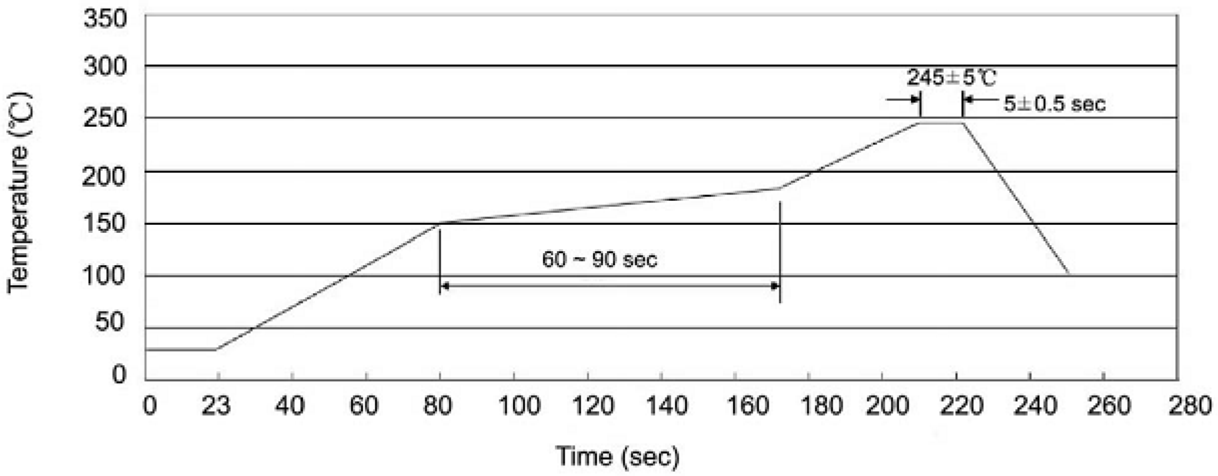
Note:

H： Company Code

1S： Product Type Code

P： 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：	Note:
1、预热温度 25 ~ 150℃，时间 60 ~ 90sec;	1.Preheating:25~150℃, Time:60~90sec.
2、峰值温度 245±5℃，时间持续为 5±0.5sec;	2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3、焊接制程冷却速度为 2 ~ 10℃/sec.	3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃　　时间：10±1 sec.

Temp.:260±5℃　　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″ ×8	180×120×180	390×385×205

使用说明 / Notices