

### 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

低噪声和高功率增益。

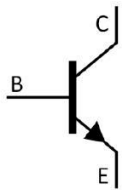
Low noise and high power gain.

### 用途 / Applications

用于甚高频、超高频和有线电视频段的低噪声放大。

low noise amplifier at VHF, UHF and CATV band applications.

### 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	Q	R	S	T
$h_{FE}$ Range	50~100	80~160	125~250	200~330
Marking	HR23	HR24	HR25	HR26

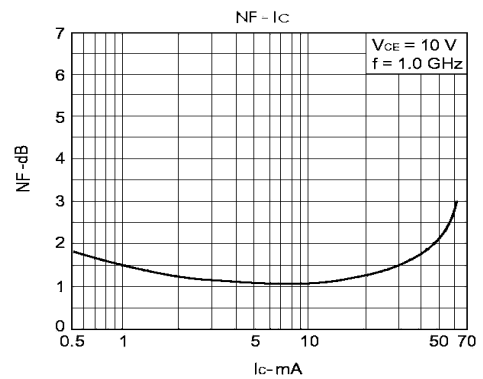
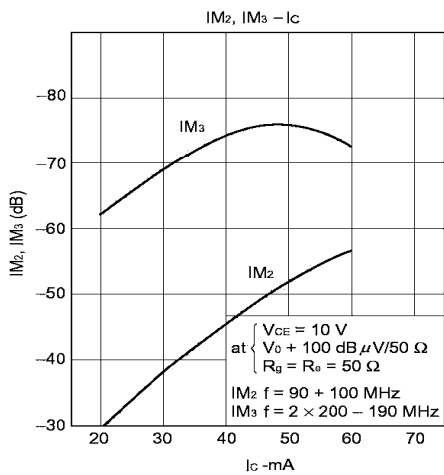
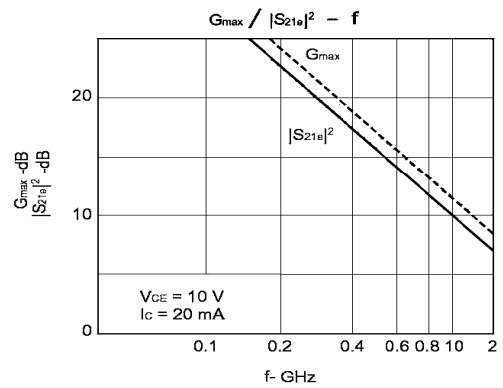
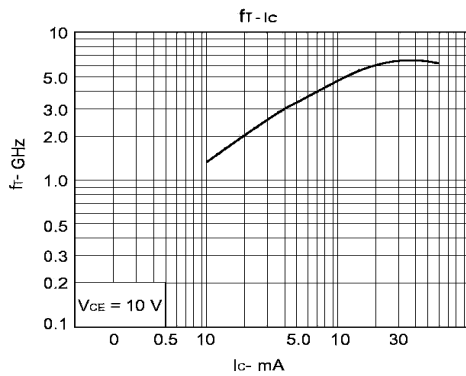
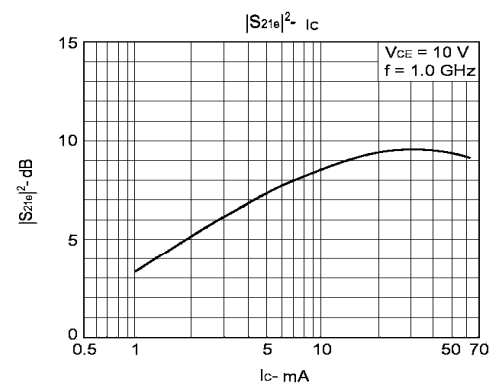
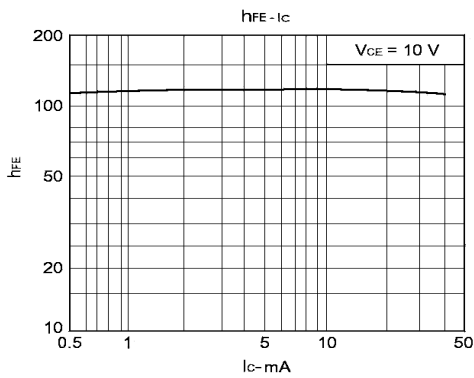
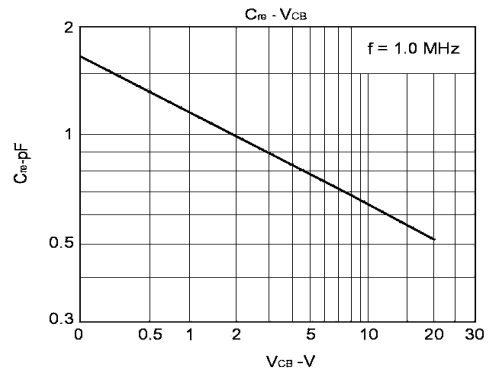
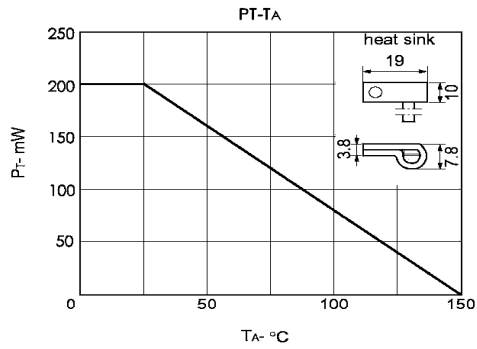
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V <sub>CBO</sub>	20	V
Collector to Emitter Voltage	V <sub>CEO</sub>	12	V
Emitter to Base Voltage	V <sub>EBO</sub>	3.0	V
Collector Current	I <sub>C</sub>	100	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-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 Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =10V I <sub>E</sub> =0			1.0	μA
Emitter Base Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =1.0V I <sub>C</sub> =0			1.0	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =10V I <sub>C</sub> =20mA	50	120	330	
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =10V I <sub>C</sub> =20mA		7		GHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V I <sub>E</sub> =0 f=1.0MHz		0.55	1.0	pF
Noise Figure	NF	V <sub>CE</sub> =10V I <sub>C</sub> =7.0mA f=1.0GHz		1.0	2.0	dB
Insertion Power Gain	S <sub>21e</sub>   <sup>2</sup>	V <sub>CE</sub> =10V I <sub>C</sub> =20mA f=1.0GHz		11.5		dB

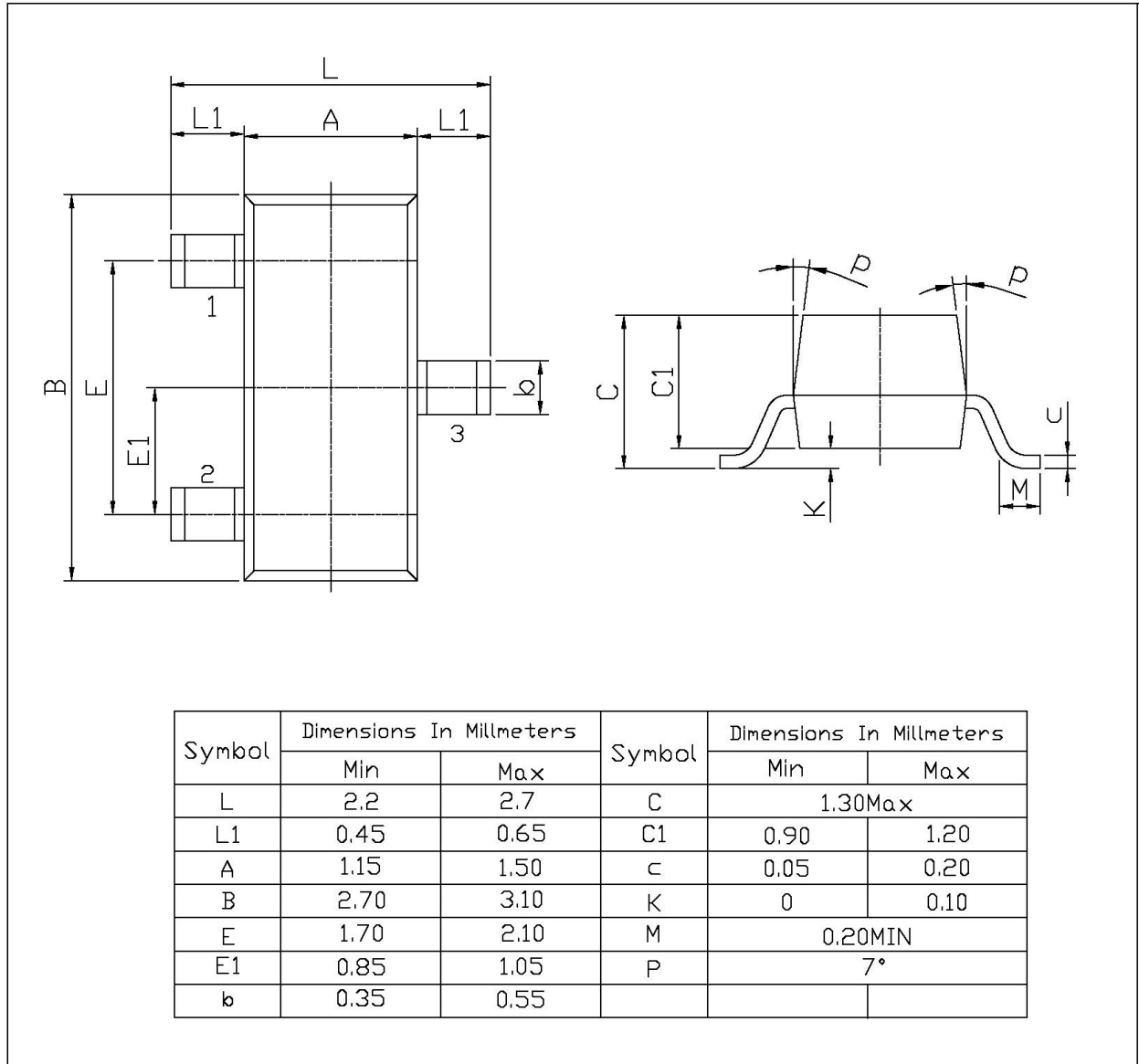
电参数曲线图 / Electrical Characteristic Curve



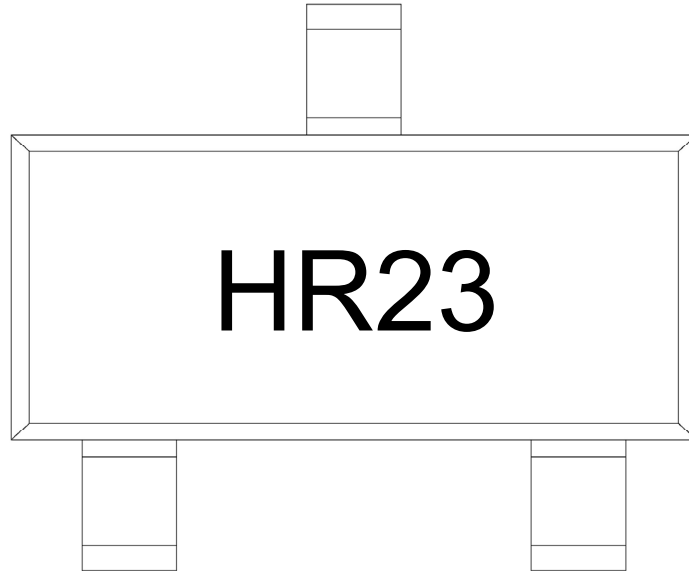
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

R23： 为型号代码

Note:

H： Company Code

R23： 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 <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" x8	180×120×180	390×385×205

**使用说明 / Notices**