

描述 / Descriptions

SOT-89 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-89 Plastic Package.

特征 / Features

低噪声,高增益,小封装功耗大。

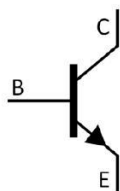
Low noise and high gain, large P_C in small package.

用途 / Applications

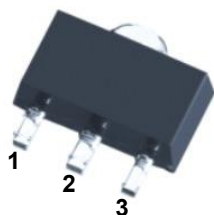
用于甚高频、超高频和有线电视频段的低噪声放大。

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 : Collector PIN 3 : Emitter

印章代码 / Marking

h_{FE} Classifications Symbol	H	F	E	G
h_{FE} Range	50~100	80~160	125~250	200~300
Marking	HRH * *	HRF * *	HRE * *	HRG * *

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}	12	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	350	mW
Collector Power Dissipation	$*P_C$	1.2	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

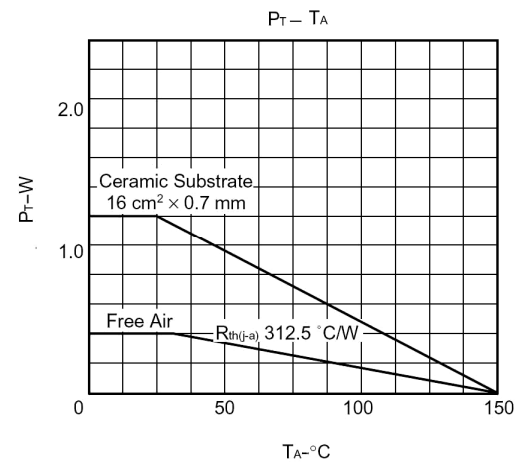
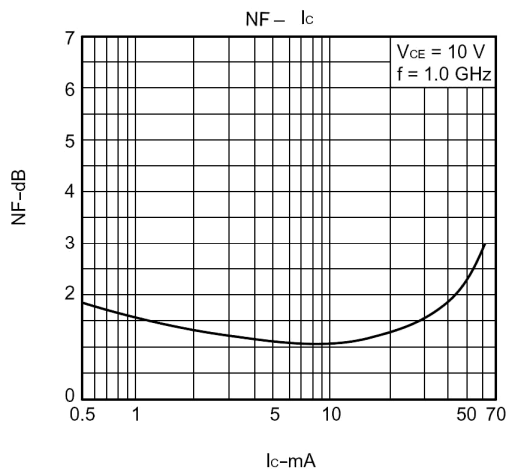
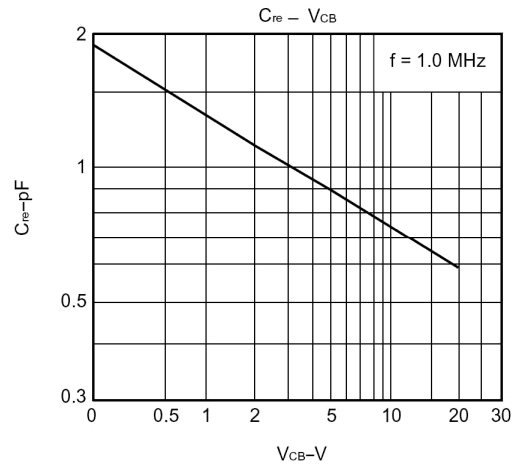
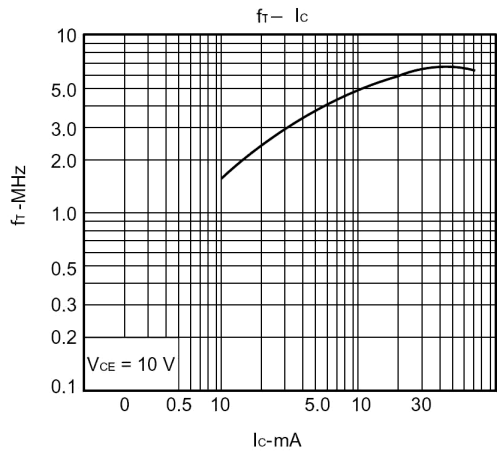
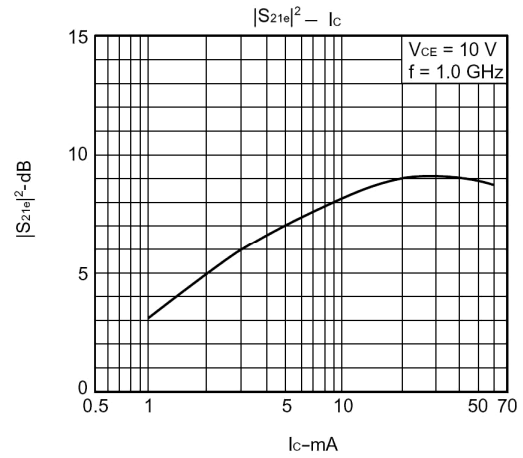
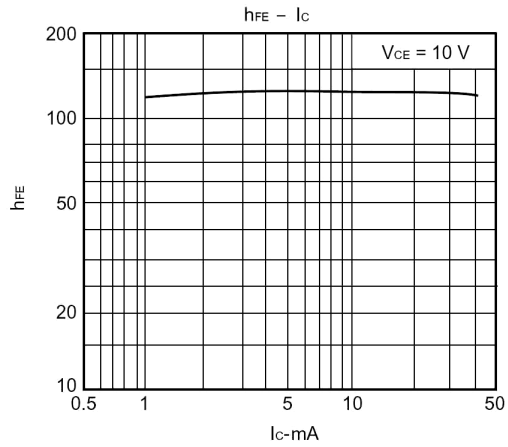
*:mounted on 16cm²×7mm ceramic substrate.

*:置于 16cm²×7mm 的陶瓷板上。

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_{CBO}	$V_{CB}=10V$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=1.0V$ $I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=20mA$	50	120	300	
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=20mA$		6.5		GHz
Feed-Back Capacitance	C_{re}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		0.65	1.0	pF
Noise Figure	$NF_{(1)}$	$V_{CE}=10V$ $I_C=7.0mA$ $f=1.0GHz$		1.1		dB
	$NF_{(2)}$	$V_{CE}=10V$ $I_C=40mA$ $f=1.0GHz$		1.8	3.0	dB

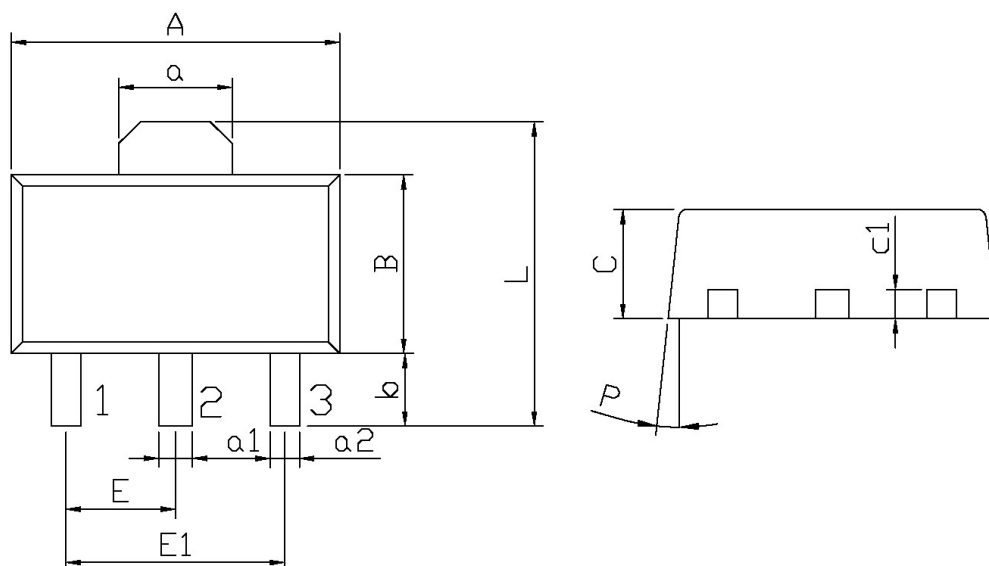
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

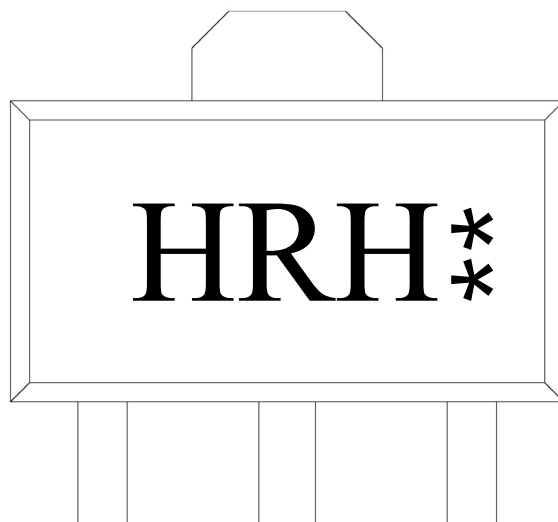
SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

H： 为公司代码

R： 为型号代码

H： 为档次代码

**： 为生产批号代码，随生产批号变化。

Note:

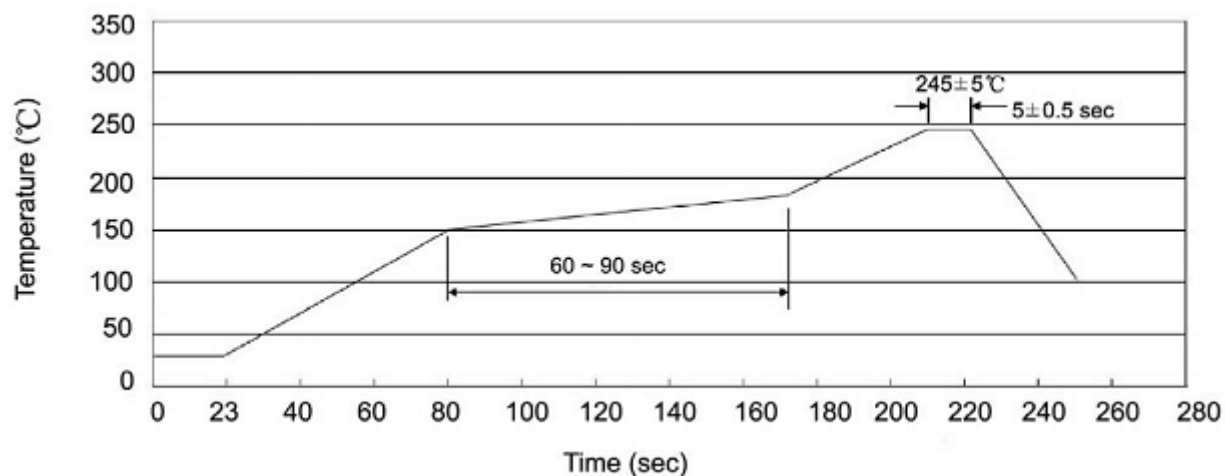
H: Company Code.

R: Product Type.

H: h_{FE} Classifications Symbol

**: Lot No. Code, code change with Lot No.

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-89	1,000	7	7,000	8	56,000	7" ×12	180×120×180	385×257×392

使用说明 / Notices