

描述 / Descriptions

SOT-223 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-223 Plastic Package.

特征 / Features

饱和压降 $V_{CE(sat)}$ 小, h_{FE} 高且线性极好。

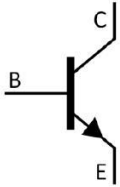
Low saturation voltage, excellent h_{FE} linearity and high h_{FE} .

用途 / Applications

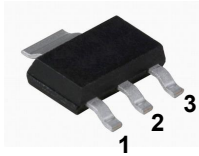
用于 3 瓦音频放大输出, 电压调节器, 电源转换和继电器驱动。

Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver .

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Base PIN 2 : Collector PIN 3 : Emitter

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

h_{FE} Classifications Symbol	R	Q	P	E
h_{FE} Range	60~120	100~200	160~320	200~400

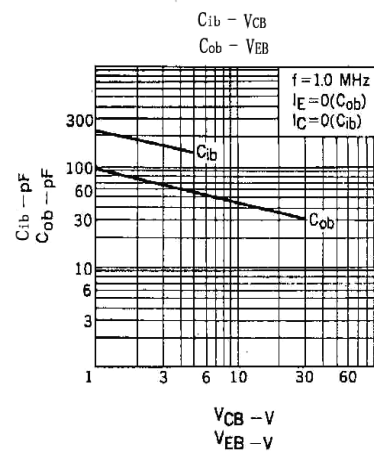
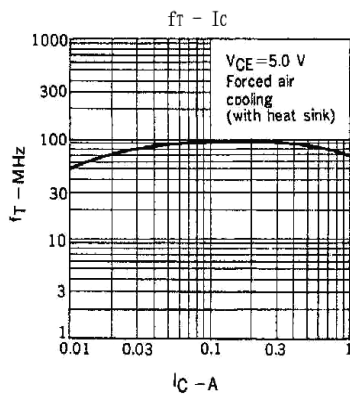
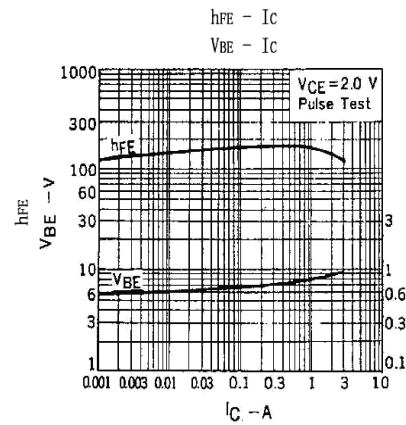
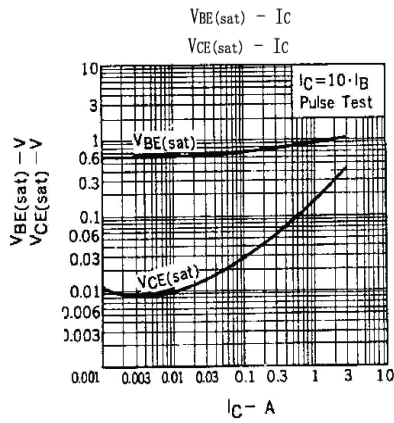
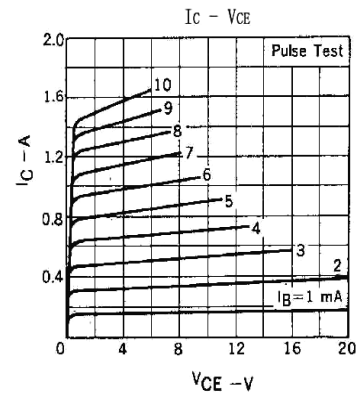
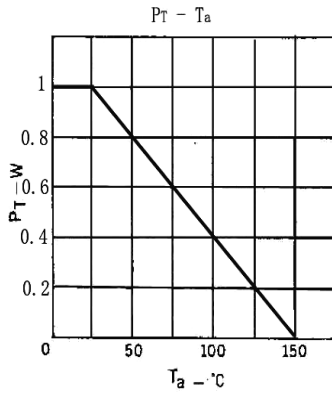
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Power Dissipation	P_C	1.0	W
	$P_C(T_C=25^{\circ}\text{C})$	10	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^{\circ}\text{C}$

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_{CBO}	$V_{CB}=30\text{V}$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=3.0\text{V}$ $I_C=0$			1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0\text{V}$ $I_C=1.0\text{A}$	60	160	400	
	$h_{FE(2)}$	$V_{CE}=2.0\text{V}$ $I_C=20\text{mA}$	30	150		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0\text{A}$ $I_B=0.2\text{A}$		0.3	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2.0\text{A}$ $I_B=0.2\text{A}$		1.0	2.0	V
Transition Frequency	f_T	$V_{CE}=5.0\text{V}$ $I_C=0.1\text{A}$		90		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_E=0$		45		pF

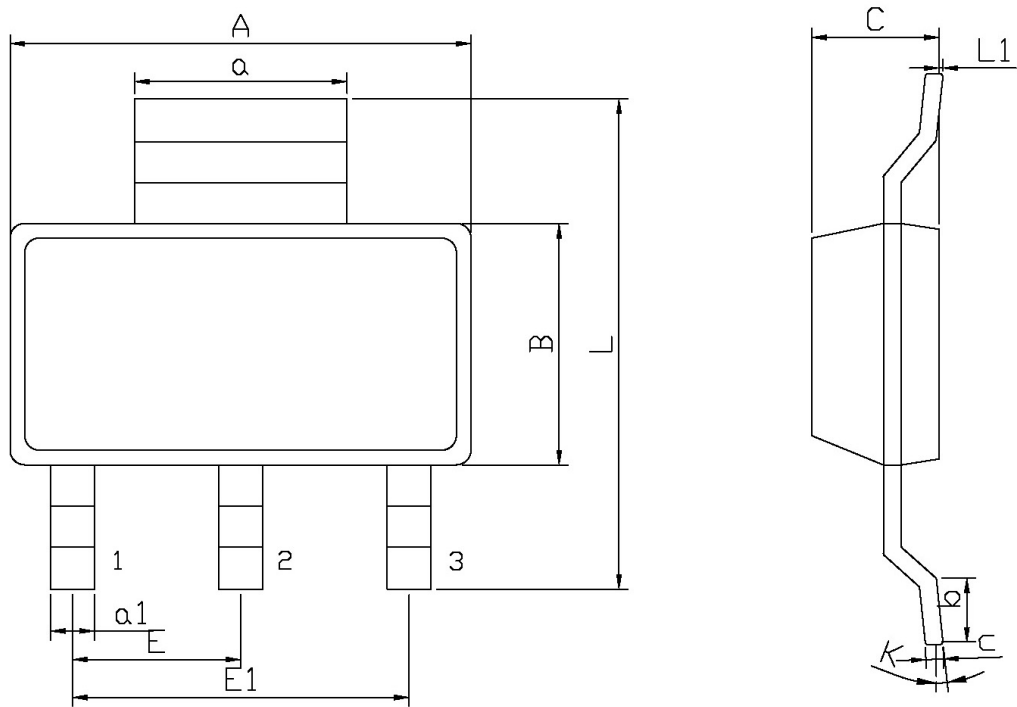
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

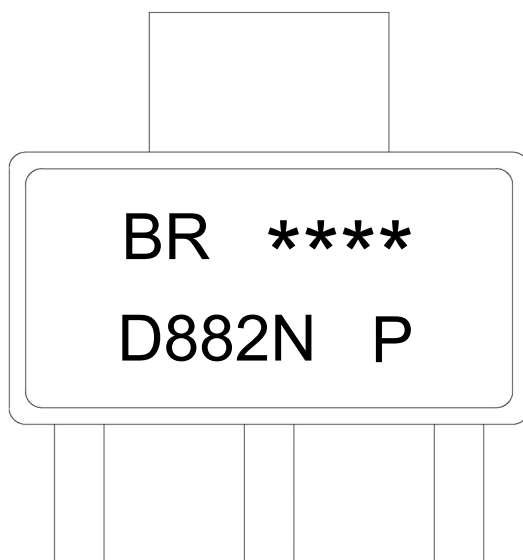
SOT-223

单位; mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	6.30	6.70	C	1.80Max	
a	2.90	3.10	b	0.91	-
B	3.30	3.70	c	0.24	0.32
L	6.70	7.30	K	0°	10°
a1	0.60	0.80	L1	0.02	0.10
E1	4.60				
E	2.30				

印章说明 / Marking Instructions



说明：

BR： 为公司代码

D882N： 为型号代码

P： 为 h_{FE} 分档代码

****： 为生产批号代码，随生产批号变化。

Note:

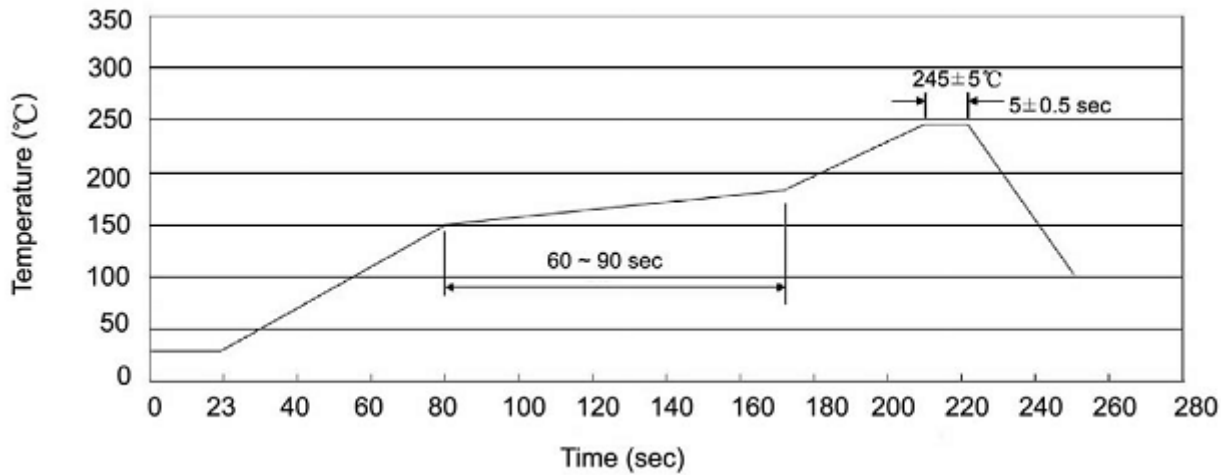
BR: Company Code.

D882N: Product Type.

P: 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-223	2,500	2	5000	5	25,000	13" ×12	340×340×50	385×257×392

使用说明 / Notices