

# 2SC1213(A)

Rev.E Mar.-2016

## 描述 / Descriptions

TO-92 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a TO-92 Plastic Package.

## 特征 / Features

可与 2SA673(A)互补。

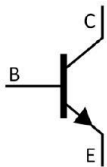
Complementary pair with 2SA673(A).

## 用途 / Applications

用于高频放大。

High frequency amplifier.

## 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 / hFE Classifications & Marking

h <sub>FE</sub> Classifications Symbol	B	C	D
h <sub>FE</sub> Range	60~120	100~200	160~320

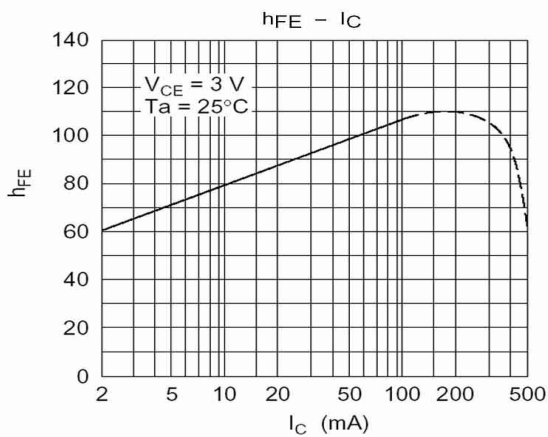
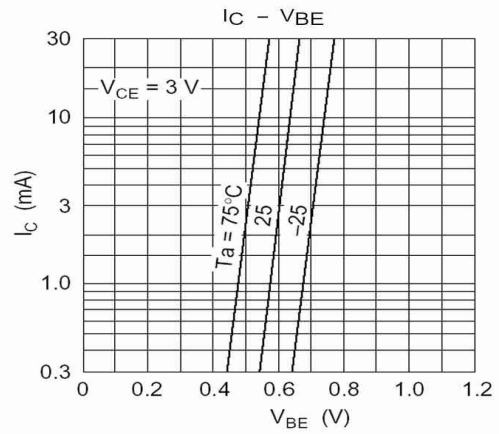
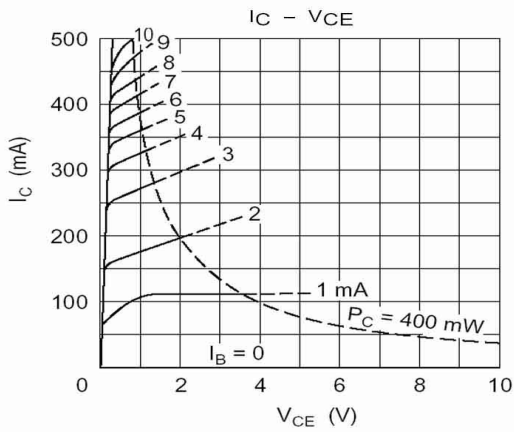
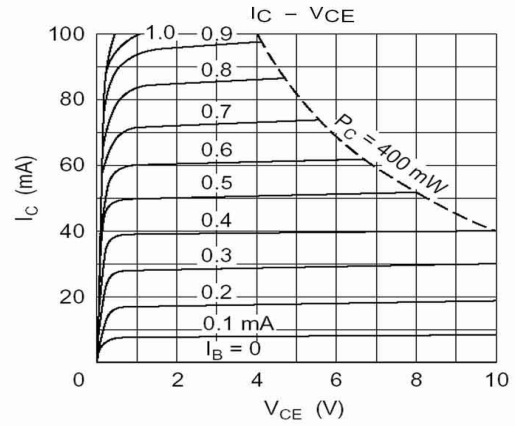
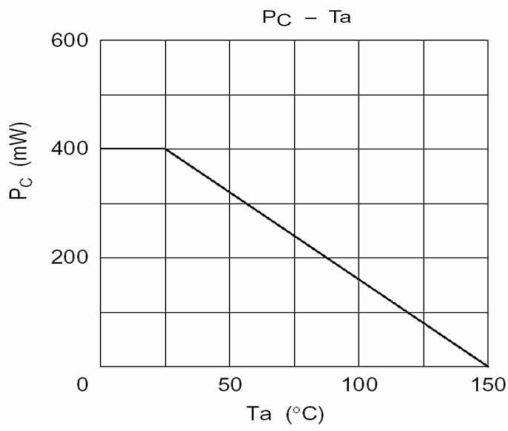
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit	
Collector to Base Voltage	V <sub>CBO</sub>	2SC1213	35	V
		2SC1213A	50	
Collector to Emitter Voltage	V <sub>CEO</sub>	2SC1213	35	V
		2SC1213A	50	
Emitter to Base Voltage	V <sub>EBO</sub>	4.0	V	
Collector Current - Continuous	I <sub>C</sub>	500	mA	
Collector Power Dissipation	P <sub>C</sub>	400	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	典型值	最大值	单位 Unit
			Min	Typ	Max	
Collector to Base Breakdown Voltage	V <sub>CBO</sub>	I <sub>C</sub> =10μA    I <sub>C</sub> =1.0mA	35			V
			50			
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =1.0mA    I <sub>B</sub> =0	35			V
			50			
Emitter to Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =10μA    I <sub>C</sub> =0	4.0			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =20V    I <sub>E</sub> =0			0.5	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =3.0V    I <sub>C</sub> =10mA	60		320	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =3.0V    I <sub>C</sub> =500mA	10			
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =150mA    I <sub>B</sub> =15mA		0.2	0.6	V
Base to Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =3.0V    I <sub>C</sub> =10mA		0.64		V

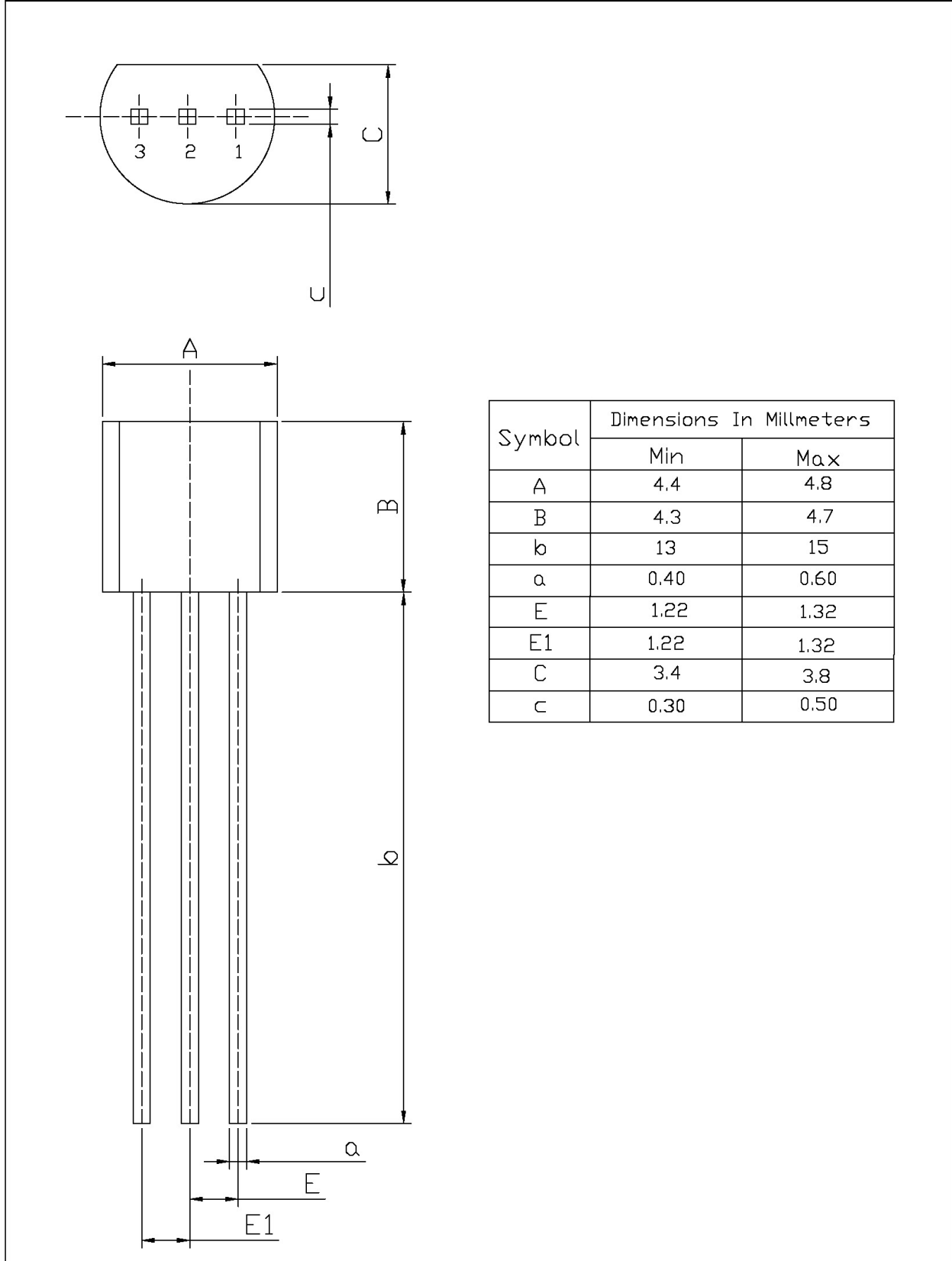
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

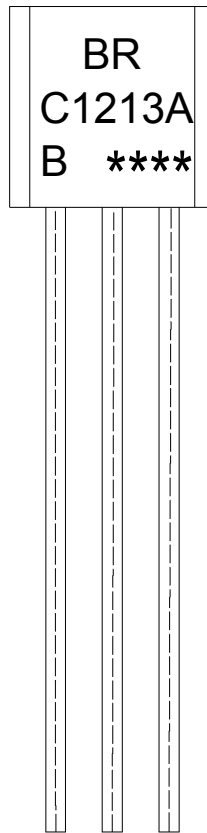
TO-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.4	3.8
c	0.30	0.50

印章说明 / Marking Instructions



说明：

BR: 为公司代码

C1213A : 为型号代码

B: 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.

C1213A: Product Type.

B:  $h_{FE}$  Classifications Symbol

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

**波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)**



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±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.:255±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：270±5°C

时间：10±1 sec.

Temp:270±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

编带包装 / AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92	3,000	1	120	10	30,000	328×230×42	小箱 480×346×235, 大箱 547×407×268

**使用说明 / Notices**