

# BC184

Rev.E Mar.-2016

## 描述 / Descriptions

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

## 特征 / Features

高频率。

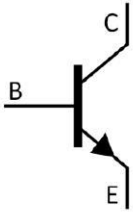
High  $f_T$ .

## 用途 / Applications

用于普通放大。

General amplifier.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Emitter

PIN 2 : Base

PIN 3 : Collector

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

见印章说明。See Marking Instructions.

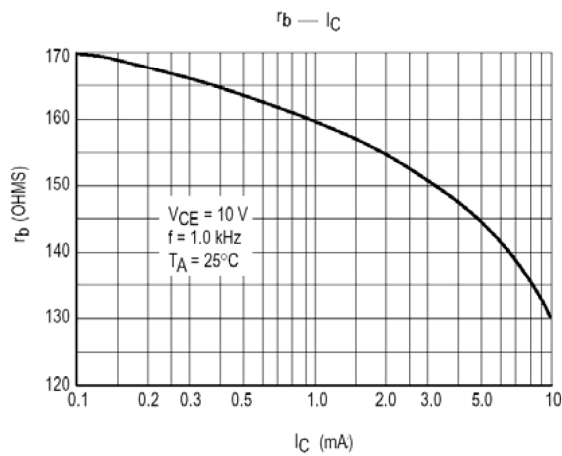
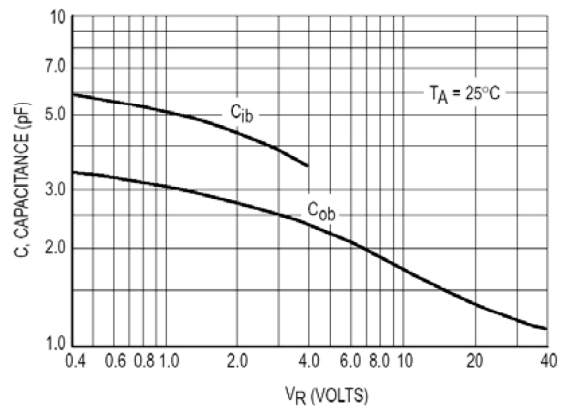
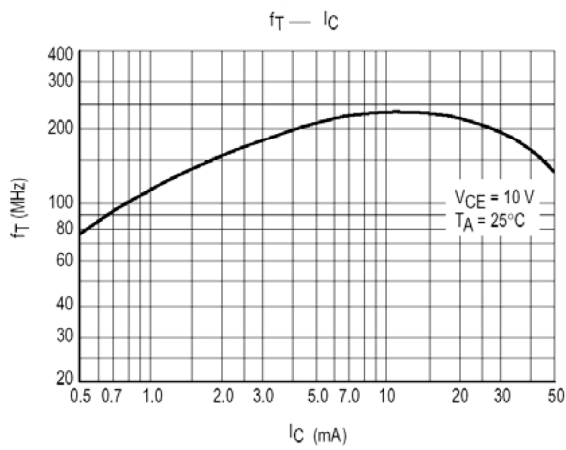
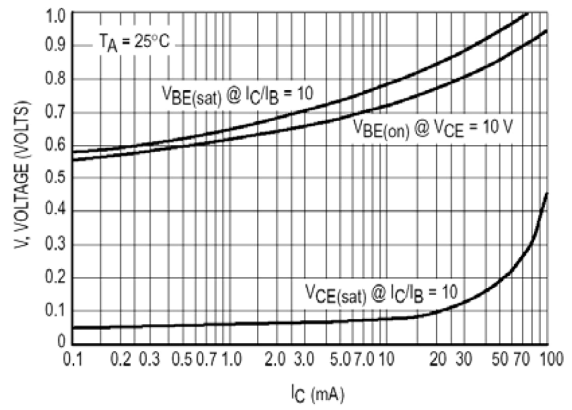
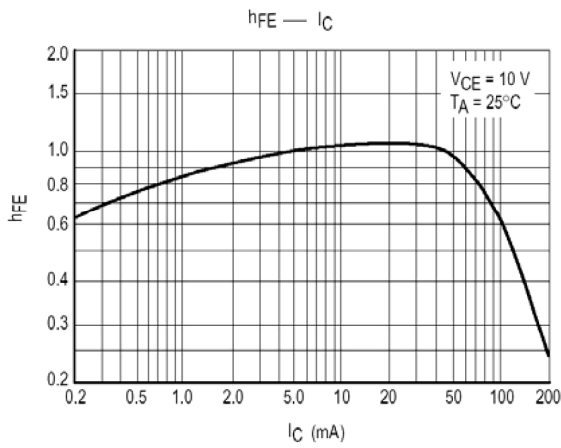
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	$V_{CBO}$	45	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	100	mA
Collector Power Dissipation	$P_C$	350	mW
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	1.0	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-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 to Base Breakdown Voltage	$V_{CBO}$	$I_C=10\mu\text{A}$ $I_E=0$	45			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=2.0\text{mA}$ $I_B=0$	30			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=100\mu\text{A}$ $I_C=0$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30\text{V}$ $I_E=0$		0.0002	0.015	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=4.0\text{V}$ $I_C=0$			0.015	$\mu\text{A}$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0\text{V}$ $I_C=2.0\text{mA}$	250		800	
	$h_{FE(2)}$	$V_{CE}=5.0\text{V}$ $I_C=10\mu\text{A}$	100			
	$h_{FE(3)}$	$V_{CE}=5.0\text{V}$ $I_C=100\text{mA}$	130			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=10\text{mA}$ $I_B=0.5\text{mA}$		0.07	0.25	V
	$V_{CE(sat)(2)}$	$I_C=100\text{mA}$ $I_B=5.0\text{mA}$		0.2	0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$ $I_B=5.0\text{mA}$			1.2	V
Base to Emitter Voltage	$V_{BE}$	$V_{CE}=5.0\text{V}$ $I_C=2.0\text{mA}$	0.55	0.62	0.7	V
Transition Frequency	$f_T$	$I_C=10\text{mA}$ $f=100\text{MHz}$ $V_{CE}=5.0\text{V}$	150	280		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_C=0$			5.0	pF
Common Base Input Capacitance	$C_{ib}$	$V_{EB}=0.5\text{V}$ $f=1.0\text{MHz}$ $I_C=0$		8.0		pF
Small-Signal Current Gain	$h_{fe}$	$I_C=2.0\text{mA}$ $f=1.0\text{MHz}$ $V_{CE}=5.0\text{V}$	240		900	
Noise Figure	NF	$I_C=0.2\text{mA}$ $R_S=2.0\text{K}\Omega$ $V_{CE}=5.0\text{V}$ $f=1.0\text{MHz}$		2.0	4.0	dB

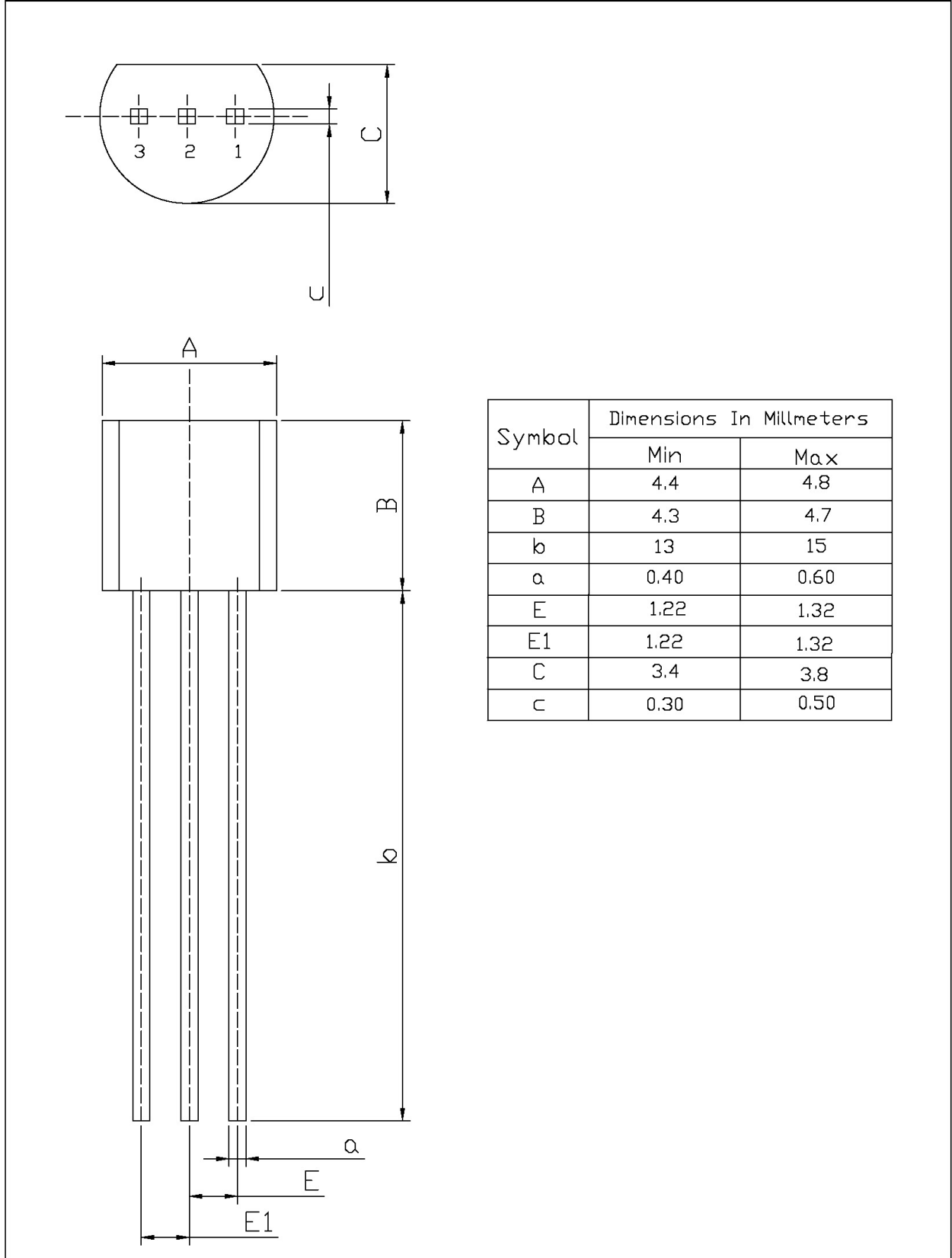
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

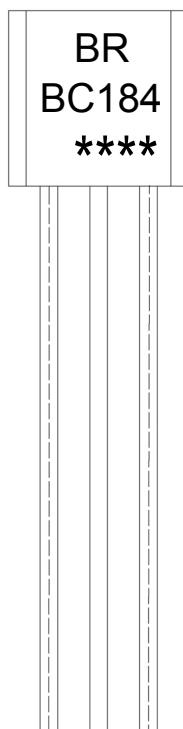
TO-92(R)

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

BC184： 为产品型号

\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

BC184: Product Type.

\*\*\*\*: 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**