

**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**

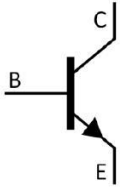
低电流,低电压。

Low current, low voltage.

**用途 / Applications**

用于电视接收机的中频前置放大器。

IF pre-amplifiers of television receivers.

**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<br>Parameter                | 符号<br>Symbol | 数值<br>Rating | 单位<br>Unit |
|--------------------------------|--------------|--------------|------------|
| Collector to Base Voltage      | $V_{CBO}$    | 40           | V          |
| Collector to Emitter Voltage   | $V_{CEO}$    | 15           | V          |
| Emitter to Base Voltage        | $V_{EBO}$    | 4.5          | V          |
| Collector Current - Continuous | $I_C$        | 100          | mA         |
| Peak Collector Current         | $I_{CM}$     | 200          | mA         |
| Collector Power Dissipation    | $P_C$        | 500          | mW         |
| Junction Temperature           | $T_j$        | 150          | °C         |
| Storage Temperature Range      | $T_{stg}$    | -55~150      | °C         |

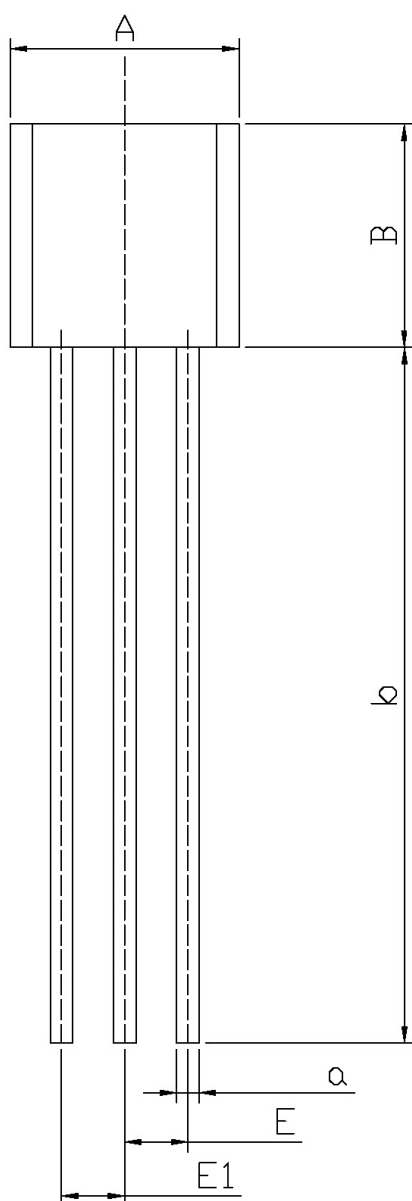
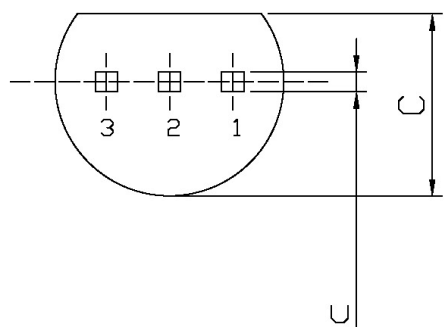
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| 参数<br>Parameter           | 符号<br>Symbol | 测试条件<br>Test Conditions                    | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
|---------------------------|--------------|--------------------------------------------|------------|------------|------------|------------|
| Collector Cut-Off Current | $I_{CBO}$    | $V_{CB}=20V$ $I_E=0$                       |            |            | 30         | $\mu A$    |
| Emitter Cut-Off Current   | $I_{EBO}$    | $V_{EB}=2.0V$ $I_C=0$                      |            |            | 0.1        | $\mu A$    |
| DC Current Gain           | $h_{FE}$     | $V_{CE}=1.0V$ $I_C=10mA$                   | 40         |            |            |            |
| Collector Capacitance     | $C_c$        | $I_E=I_{E0}=0$ $V_{CB}=10V$<br>$f=1.0MHz$  |            | 2.2        |            | pF         |
| Emitter Capacitance       | $C_e$        | $I_C=I_{C0}=0$ $V_{EB}=1.0V$<br>$f=1.0MHz$ |            |            | 4.5        | pF         |
| Feedback Capacitance      | $C_{re}$     | $V_{CB}=10V$ $I_C=0$<br>$f=1.0MHz$         |            | 1.6        |            | pF         |
| Transition Frequency      | $f_T$        | $V_{CE}=10V$ $I_C=10mA$<br>$f=100MHz$      | 500        |            |            | MHz        |
|                           |              | $V_{CE}=10V$ $I_C=40mA$<br>$f=100MHz$      | 490        |            |            | MHz        |

**外形尺寸图 / Package Dimensions**

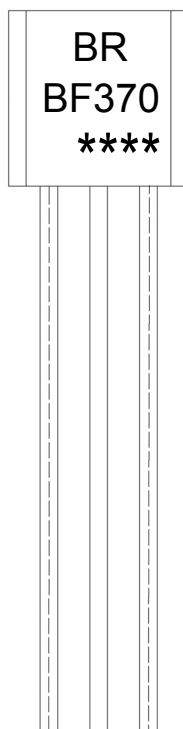
TO-92(R)

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

BF370： 为产品型号

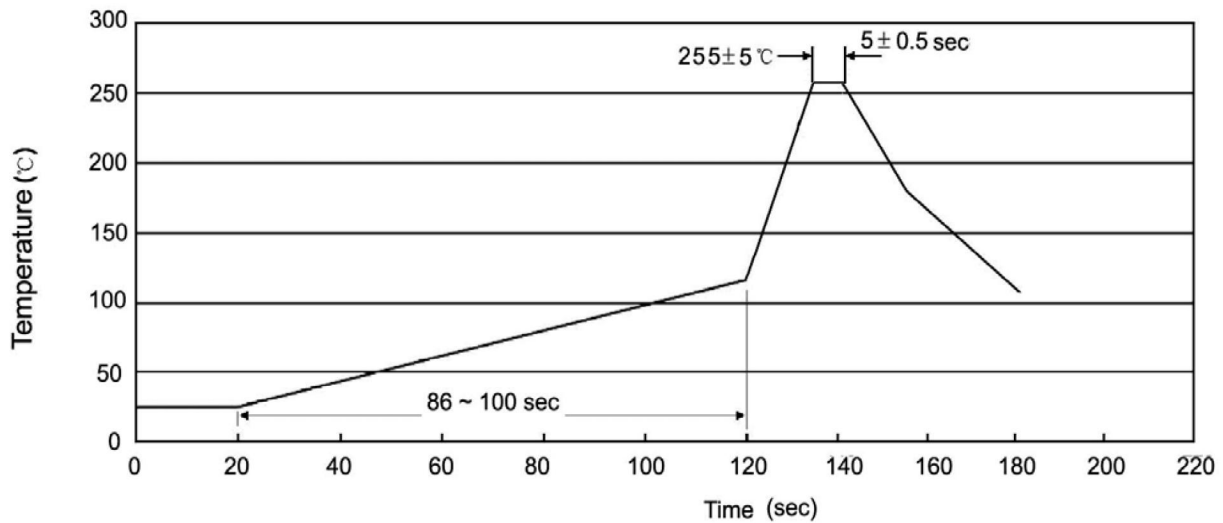
\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

BF370: 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<br>封装形式 | Units 包装数量       |                       |                        |                              |                        | Dimension 包装尺寸 (unit: mm3) |             |             |
|----------------------|------------------|-----------------------|------------------------|------------------------------|------------------------|----------------------------|-------------|-------------|
|                      | Units/Bag<br>只/袋 | Bags/Inner Box<br>袋/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>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<br>封装形式 | Units 包装数量         |                        |                         |                              |                        | Dimension 包装尺寸 (unit: mm3) |                                   |
|----------------------|--------------------|------------------------|-------------------------|------------------------------|------------------------|----------------------------|-----------------------------------|
|                      | Units/tape<br>只/纸带 | Tape/Inner Box<br>纸带/盒 | Rows/Inner Box<br>纸带层/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>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,<br>大箱 547×407×268 |

**使用说明 / Notices**