

BRMJD44DP

Rev.A Nov.-2023

描述 / Descriptions

TO-252 塑封封装 NPN 半导体三极管。

Silicon NPN transistor in a TO-252 Plastic Package.

特征 / Features

与 BRMJD45DP 互补，无卤产品。

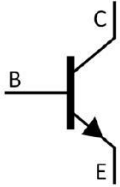
Complement to BRMJD45DP, HF product.

用途 / Applications

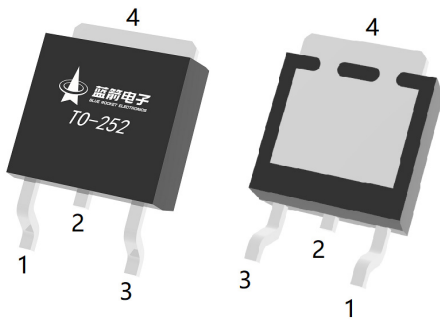
用于中功率线性开关。

Medium power linear switching applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Base

PIN 2,4 : Collector

PIN 3 : Emitter

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} | 80 | V |
| Collector to Emitter Voltage | V _{CEO} | 80 | V |
| Emitter to Base Voltage | V _{EBO} | 5.0 | V |
| Collector Current - Continuous | I _C | 8.0 | A |
| Collector Peak Current | I _{CM} | 16.0 | A |
| Collector Power Dissipation | P _D (T _A =25°C) | 1.75 | W |
| Collector Power Dissipation | P _D (T _C =25°C) | 20 | 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 Emitter Breakdown Voltage | V _{CEO} | I _C = 30mA I _B = 0 | 80 | | | V |
| Collector Cut-Off Current | I _{CES} | V _{CE} = 80V V _{BE} = 0 | | | 1.0 | μA |
| Emitter Cut-Off Current | I _{EBO} | V _{BE} = 5.0V I _C = 0 | | | 1.0 | μA |
| DC Current Gain | h _{FE(1)} | V _{CE} = 1.0V I _C = 2.0A | 60 | | 250 | |
| | h _{FE(2)} | V _{CE} = 1.0V I _C = 4.0A | 40 | | | |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | I _C = 8.0A I _B = 400mA | | | 1 | V |
| Base-Emitter Saturation Voltage | V _{BE(sat)} | I _C = 8.0A I _B = 800mA | | | 1.5 | V |
| Current- Gain Bandwidth Product | f _T | I _C = 0.5A V _{CE} = 10V f = 20MHz | | 85 | | MHz |

电参数曲线图 / Electrical Characteristic Curve

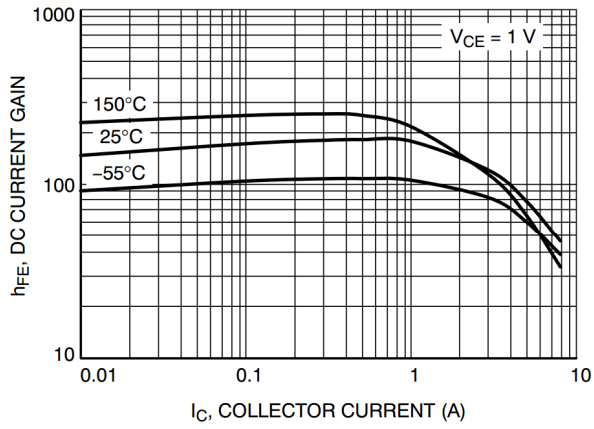


Figure 1. DC Current Gain

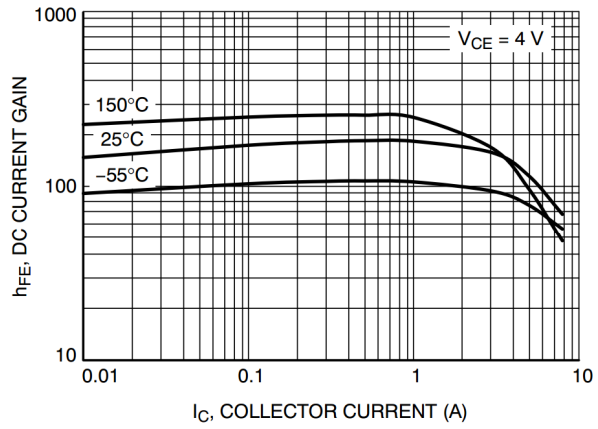


Figure 2. DC Current Gain

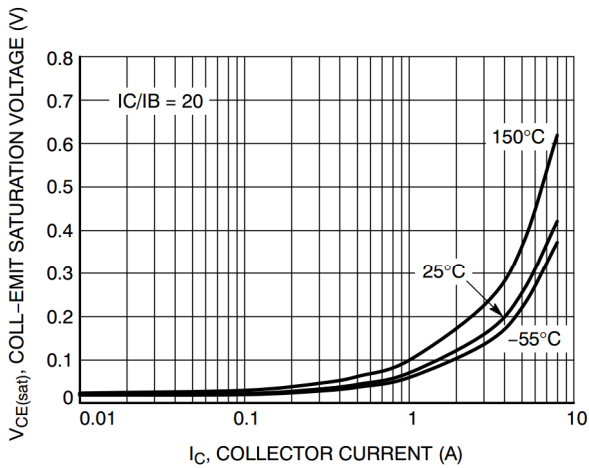


Figure 3. Saturation Voltage

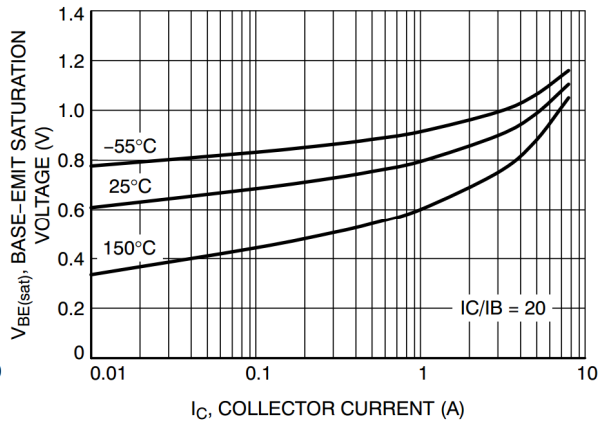


Figure 4. Saturation Voltage

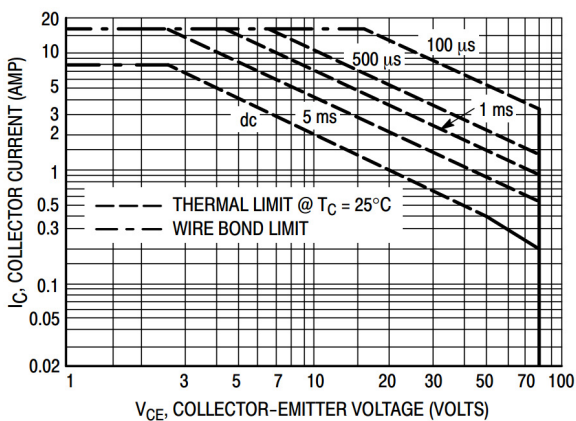
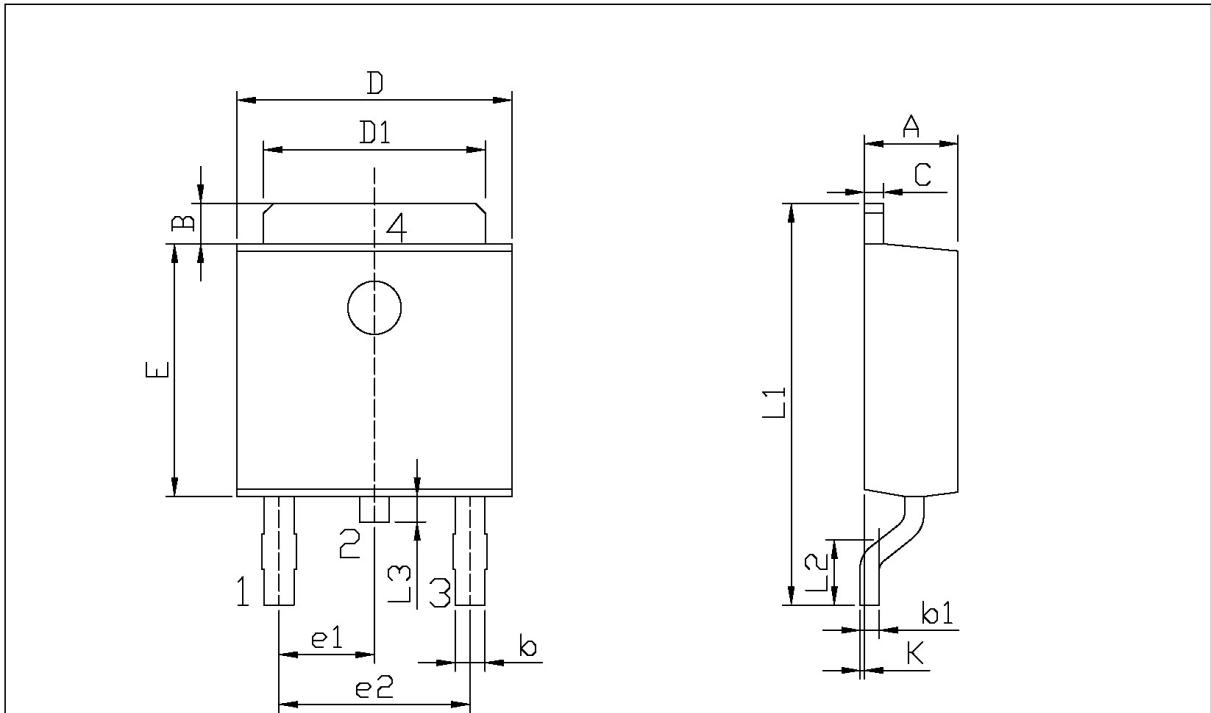


Figure 5. Maximum Forward Bias Safe Operating Area

外形尺寸图 / Package Dimensions

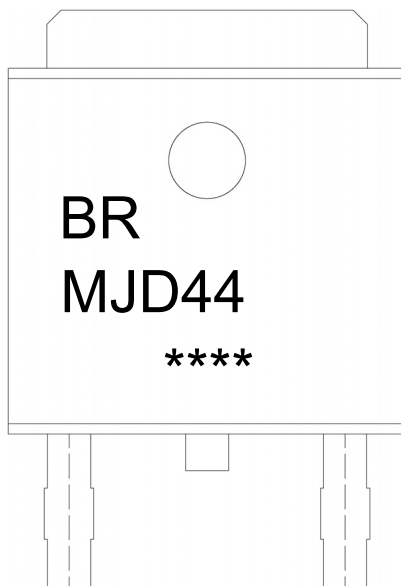


单位: mm

| Symbol | Dimensions In Millimeters | | Symbol | Dimensions In Millimeters | |
|--------|---------------------------|------|--------|---------------------------|------|
| | Min | Max | | Min | Max |
| A | 2.20 | 2.40 | E | 5.95 | 6.25 |
| B | 0.95 | 1.25 | e1 | 2.24 | 2.34 |
| b | 0.50 | 0.90 | e2 | 4.43 | 4.73 |
| b1 | 0.45 | 0.55 | L1 | 9.45 | 9.95 |
| C | 0.45 | 0.55 | L2 | 1.25 | 1.75 |
| D | 6.45 | 6.75 | L3 | 0.60 | 0.90 |
| D1 | 5.10 | 5.50 | K | 0.00 | 0.10 |

TO-252

印章说明 / Marking Instructions



说明：

BR： 为公司代码

MJD44： 为型号代码

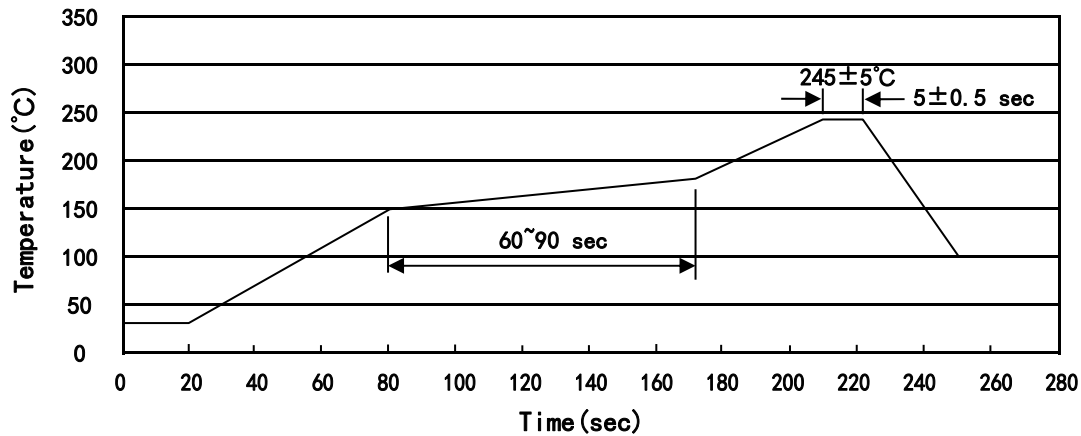
****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

MJD44: Product Type Code

****: 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 150~180°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:150~180°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 |
| TO-252 | 2,500 | 2 | 5,000 | 6 | 30,000 | 13" ×16 | 360×360×50 | 380×335×366 |

套管包装 / TUBE

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Tube 只/套管 | Tubes/Inner Box 套管/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Tube 套管 | Inner Box 盒 | Outer Box 箱 |
| TO-251/252 | 75 | 48 | 3,600 | 5 | 18,000 | 526×20.5×5.25 | 555×164×50 | 575×290×180 |

使用说明 / Notices