

Rev.A Apr.-2024

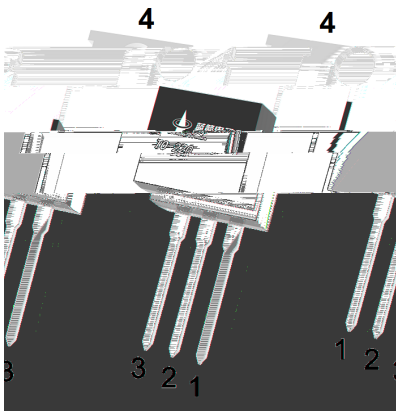
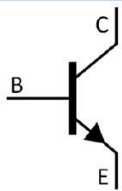
TO-220 NPN

Silicon NPN transistor in a TO-220 Plastic Package.

BRMJD45RA

Complement to BRMJD45RA, HF Product.

These power transistors can be used as general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifiers.



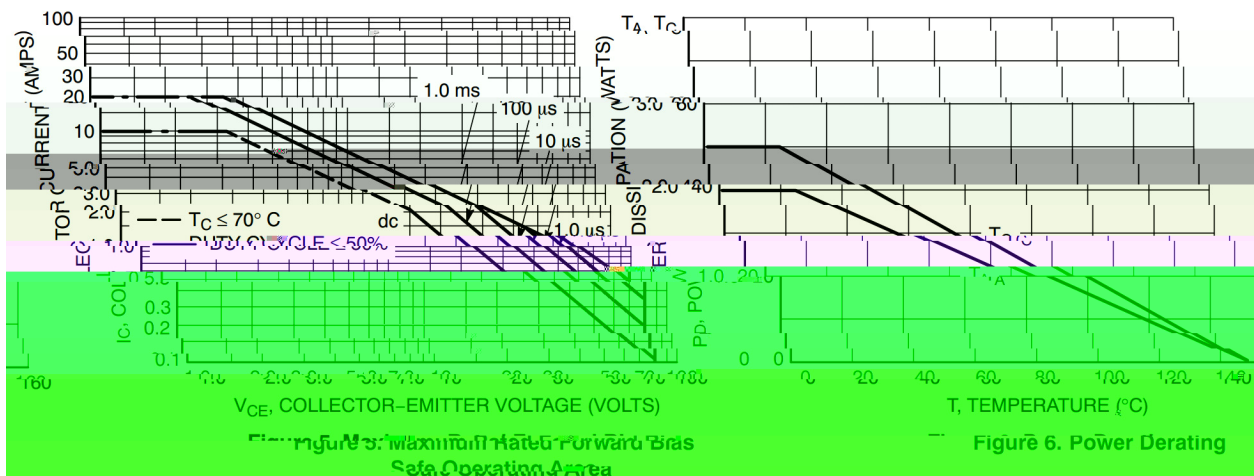
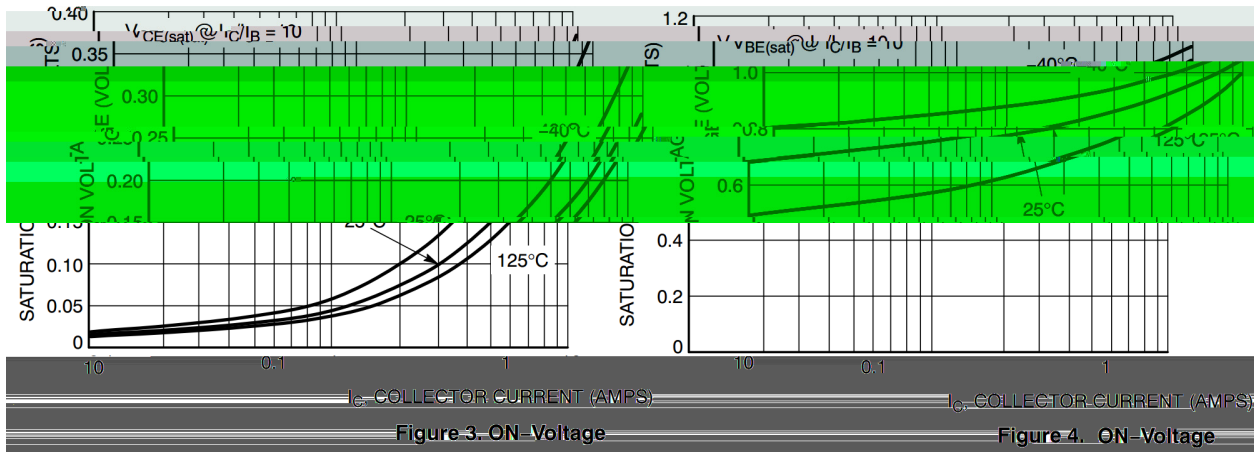
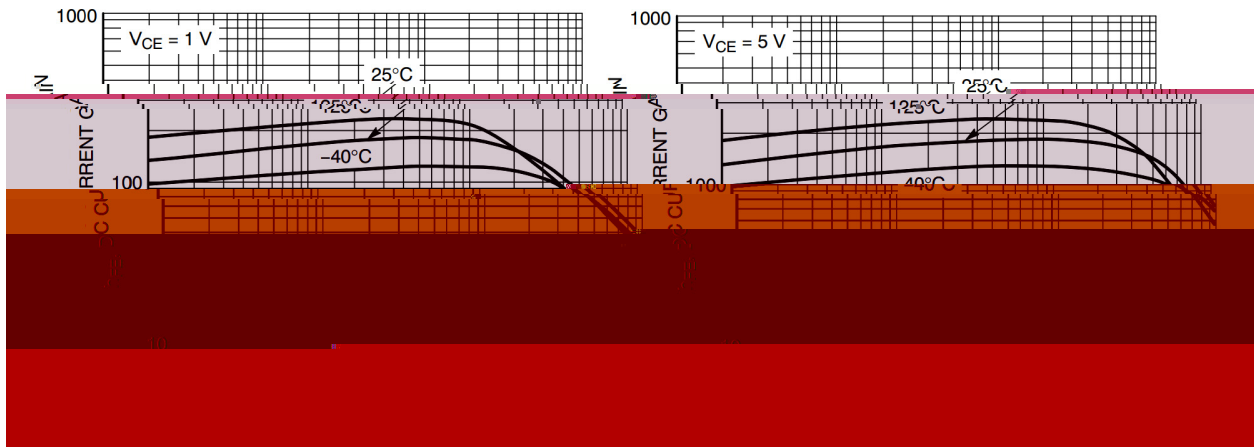
PIN1 Base PIN 2 4 Collector PIN 3 Emitter

See Marking Instructions.

| Parameter                               | Symbol                      | Rating  | Unit |
|-----------------------------------------|-----------------------------|---------|------|
| Collector to Base Voltage               | $V_{CBO}$                   | 100     | V    |
| Collector to Emitter Voltage            | $V_{CEO}$                   | 80      | V    |
| Emitter to Base Voltage                 | $V_{EBO}$                   | 5.0     | V    |
| Collector Current - Continuous          | $I_C$                       | 10      | A    |
| Peak Collector Current                  | $I_{CM}$                    | 20      | A    |
| Collector Power Dissipation             | $P_C(T_c=25^\circ\text{C})$ | 70      | W    |
|                                         | $P_C$                       | 2.0     | W    |
| Junction Temperature                    | $T_j$                       | 150     |      |
| Storage Temperature Range               | $T_{stg}$                   | -55~150 |      |
| Thermal Resistance, Junction to Ambient | $R_{JA}$                    | 62.5    | /W   |
| Thermal Resistance, Junction to Case    | $R_{JC}$                    | 1.8     | /W   |

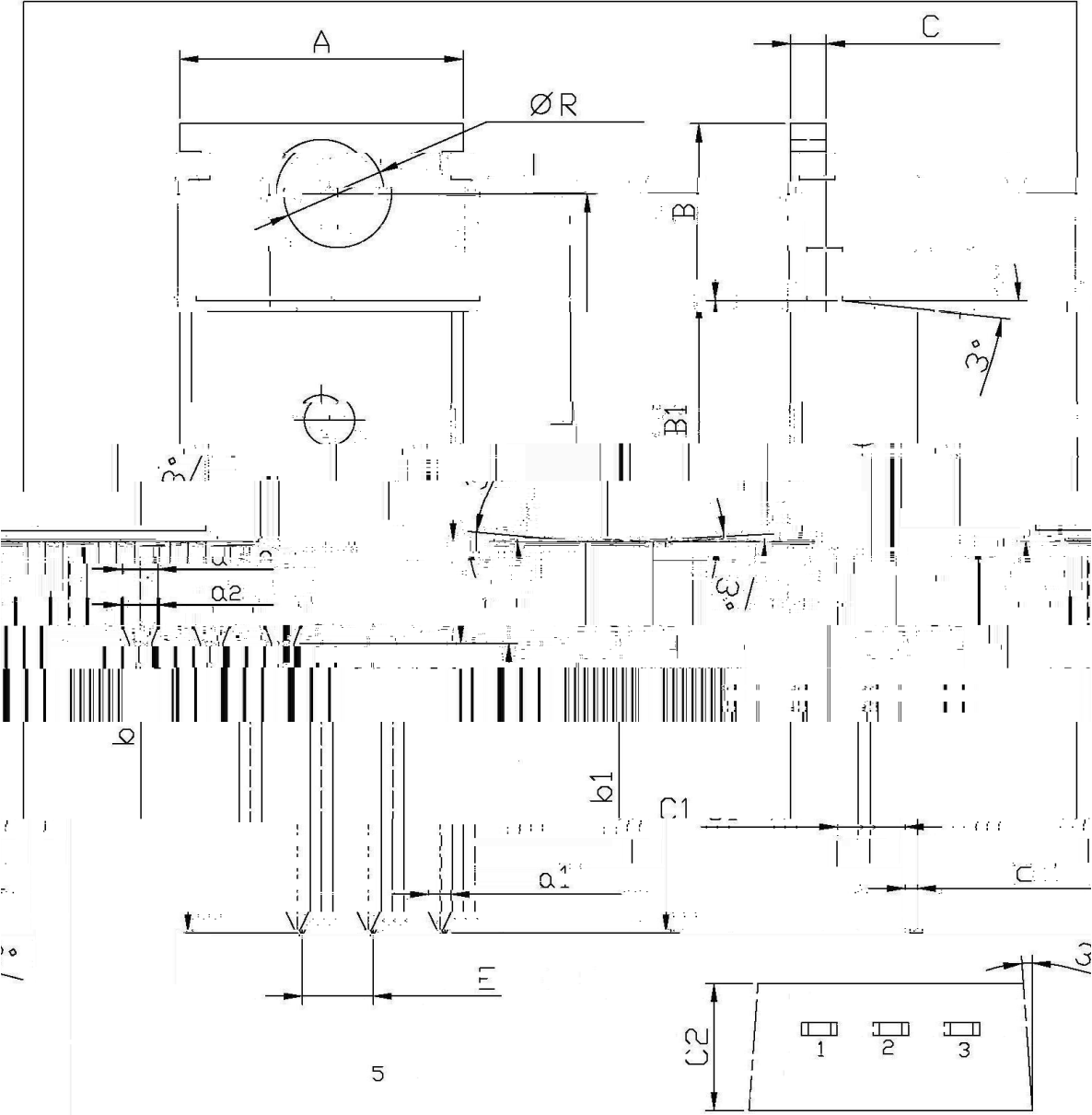
| Parameter                              | Symbol      | Test Conditions                        | Min | Typ | Max | Unit |
|----------------------------------------|-------------|----------------------------------------|-----|-----|-----|------|
| Collector to Emitter Breakdown Voltage | $V_{CEO}$   | $I_C=30\text{mA}$ $I_B=0$              | 80  |     |     | V    |
| Collector Cut-Off Current              | $I_{CES}$   | $V_{CE}=80\text{V}$ $I_B=0$            |     |     | 10  | A    |
| Emitter Cut-Off Current                | $I_{EBO}$   | $V_{EB}=5.0\text{V}$ $I_C=0$           |     |     | 10  | A    |
| DC Current Gain                        | $h_{FE(1)}$ | $V_{CE}=1.0\text{V}$ $I_C=2.0\text{A}$ | 60  |     | 250 |      |
|                                        | $h_{FE(2)}$ | $V_{CE}=1.0\text{V}$ $I_C=4.0\text{A}$ | 40  |     |     |      |

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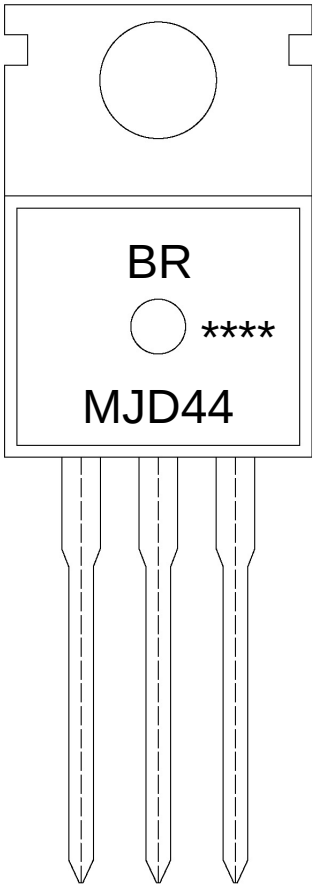


T□-220

单位: mm



| Dimensions In Millimeters |        |      |  | Dimensions In Millimeters |        |     |  |
|---------------------------|--------|------|--|---------------------------|--------|-----|--|
| Max                       | Symbol | Min  |  | Max                       | Symbol | Min |  |
| 1.4                       | A      | 9.8  |  | 10.2                      | C      | 1.2 |  |
| 6.7                       | R      | 3.56 |  | 3.64                      | B      | 6.3 |  |
| 9.4                       | B      | 15.7 |  | 16.1                      | B1     | 9.0 |  |
| 2.6                       | a      | 12.6 |  | 13.6                      | C1     | 2.2 |  |



BR

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MJD44

Note:

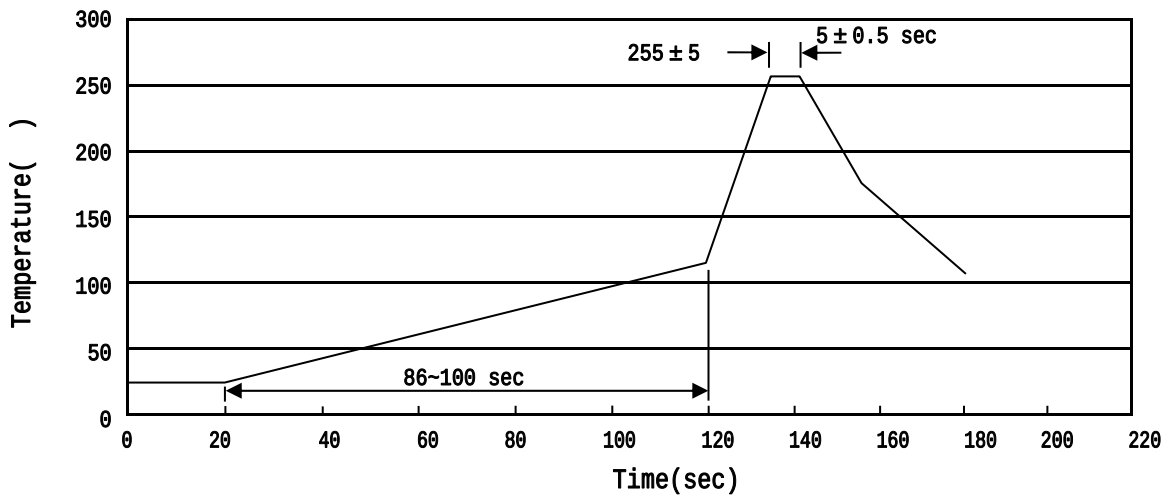
- BR:

\*\*\*\*:

MJD44:
- Company Code

Lot No. Code, code change with Lot No

Product Type Code



Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

270±5

10±1 sec.

Temp.:270±5

Time:10±1 sec

/ BULK

| Package Type | Units       |                  |                   |                         |                   | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|-------------|------------------|-------------------|-------------------------|-------------------|-----------------------------------|-------------|-------------|
|              | Units/Bag / | Bags/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Bag                               | Inner Box   | Outer Box   |
| TO-220/F     | 200         | 10               | 2,000             | 5                       | 10,000            | 135×190                           | 237×172×102 | 560×245×195 |

/ TUBE

| Package Type | Units        |                   |                   |                         |                   | Dimension (unit mm <sup>3</sup> ) |            |             |
|--------------|--------------|-------------------|-------------------|-------------------------|-------------------|-----------------------------------|------------|-------------|
|              | Units/Tube / | Tubes/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Tube                              | Inner Box  | Outer Box   |
| TO-220/F     | 50           | 20                | 1,000             | 5                       | 5,000             | 532×31.4×5.5                      | 555×164×50 | 575×290×180 |