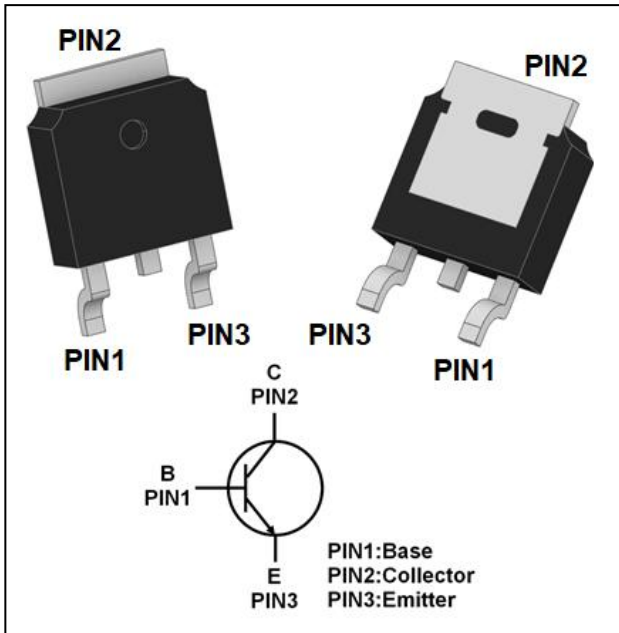


## NPN High Power Bipolar Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1

### Applications

- Complement to MJD45H11B
- Low Collector Emitter Saturation Voltage
- Fast Switching Speeds

### Mechanical Data

- Package: TO-252
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Unit Weight: 0.32g

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

| Item                                        | Symbol     | Unit | Value       |
|---------------------------------------------|------------|------|-------------|
| Device marking code                         |            |      | MJD44H11B   |
| Collector-base voltage                      | $V_{CBO}$  | V    | 100         |
| Collector-emitter voltage                   | $V_{CEO}$  | V    | 80          |
| Emitter-base voltage                        | $V_{EBO}$  | V    | 6           |
| Collector current                           | $I_C$      | A    | 8           |
| Power dissipation (*)                       | $P_D$      | W    | 1.5         |
| Thermal resistance, junction-to-ambient (*) | $R_{thJA}$ | °C/W | 83.3        |
| Junction temperature                        | $T_j$      | °C   | -55 to +150 |
| Storage temperature                         | $T_{STG}$  | °C   | -55 to +150 |

(\*) Device mounted on FR-4 PCB(25.4\*25.4\*1.0mm)mounting pad.



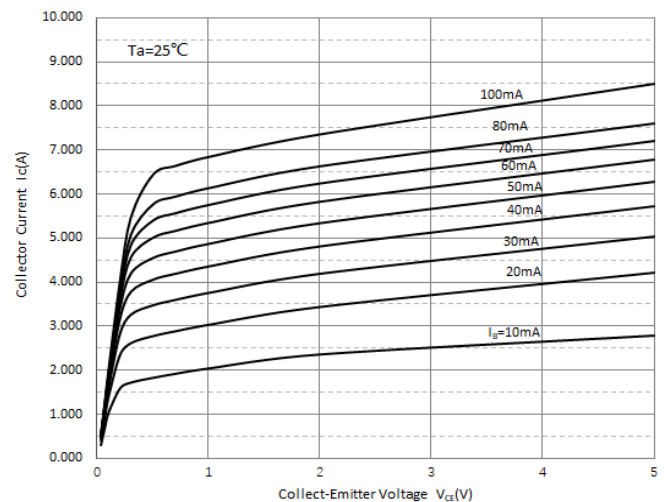
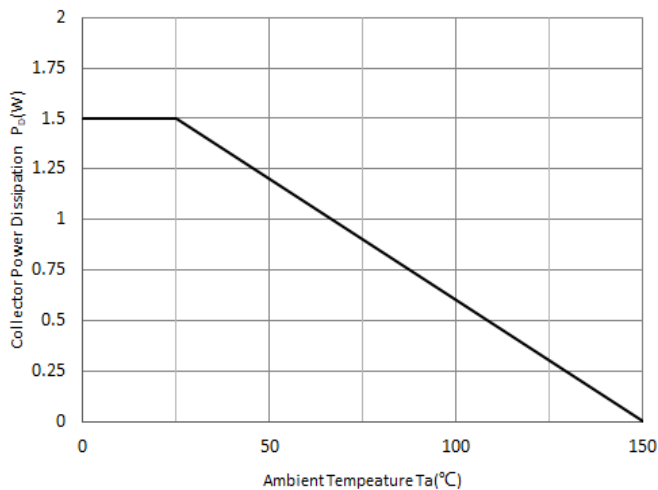
## ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| Item                                 | Symbol        | Unit    | Conditions                | Min | Typ | Max |
|--------------------------------------|---------------|---------|---------------------------|-----|-----|-----|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | V       | $I_C = 100\mu A, I_E = 0$ | 100 |     |     |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | V       | $I_C = 1mA, I_B = 0$      | 80  |     |     |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | V       | $I_E = 100\mu A, I_C = 0$ | 6   |     |     |
| Collector-base cut-off current       | $I_{CBO}$     | $\mu A$ | $V_{CB} = 100V$           |     |     | 1   |
| Collector cutoff current             | $I_{CES}$     | $\mu A$ | $V_{CE} = 64V$            |     |     | 1   |
| Emitter-base cut-off current         | $I_{EBO}$     | $\mu A$ | $V_{EB} = 5V$             |     |     | 1   |
| DC current gain                      | $h_{FE}$      |         | $V_{CE} = 1V, I_C = 2A$   | 60  |     |     |
|                                      |               |         | $V_{CE} = 1V, I_C = 4A$   | 40  |     |     |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | V       | $I_C = 8A, I_B = 400mA$   |     |     | 1.0 |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | V       | $I_C = 8A, I_B = 800mA$   |     |     | 1.5 |
| Collector-base output capacitance    | Cob           | pF      | $V_{CB} = 10V, f = 1MHz$  |     | 44  |     |

## ■ Ordering Information (Example)

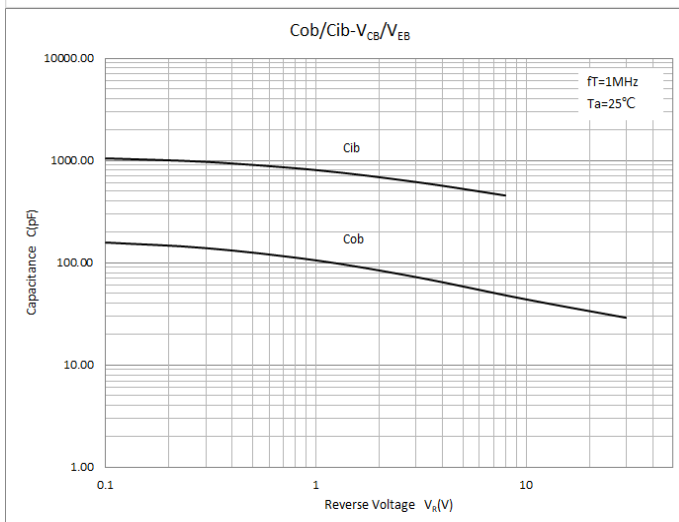
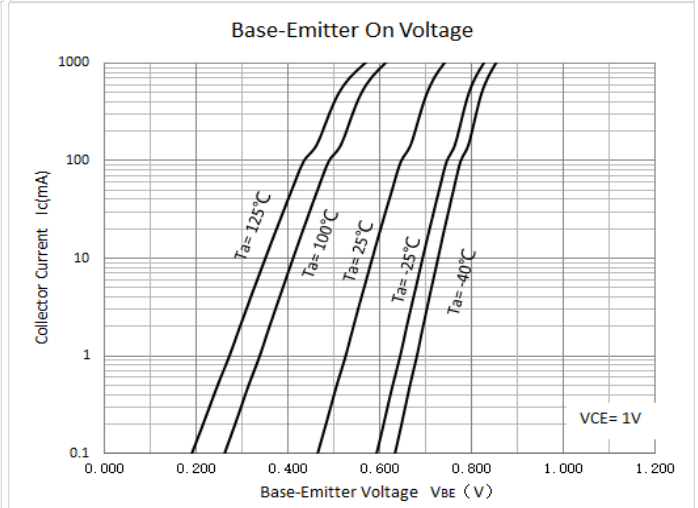
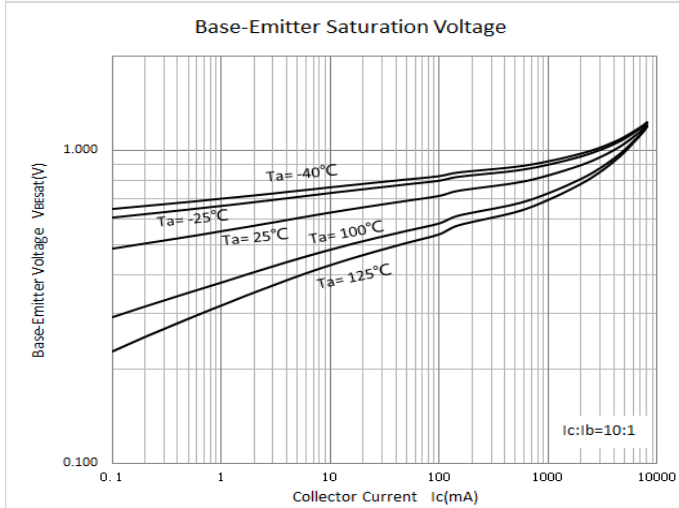
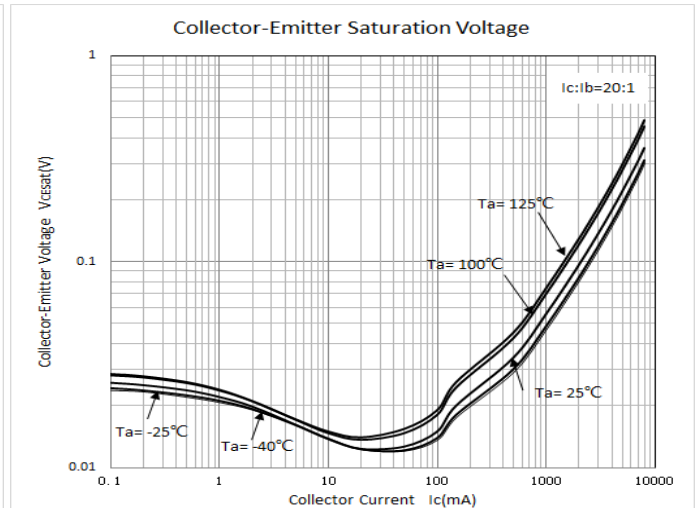
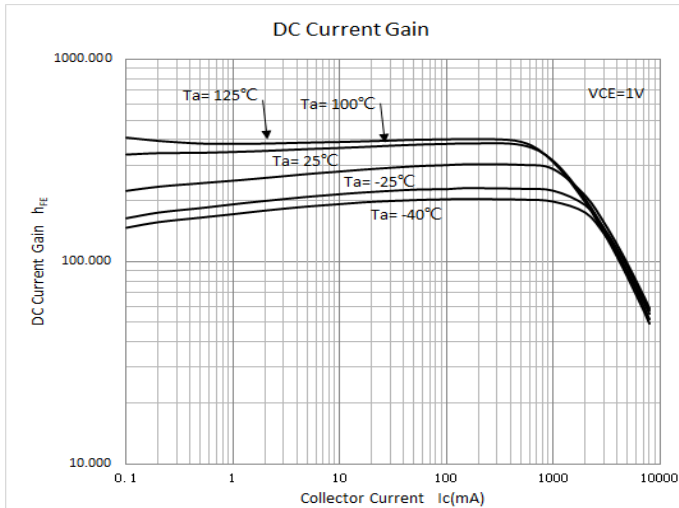
| PREFERRED P/N | PACKING CODE | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|----------------------|-------------------------|----------------------------|---------------|
| MJD44H11B     | F2           | 2500                 | 5000                    | 25000                      | 13"Reel       |

## ■ Characteristics(Typical)



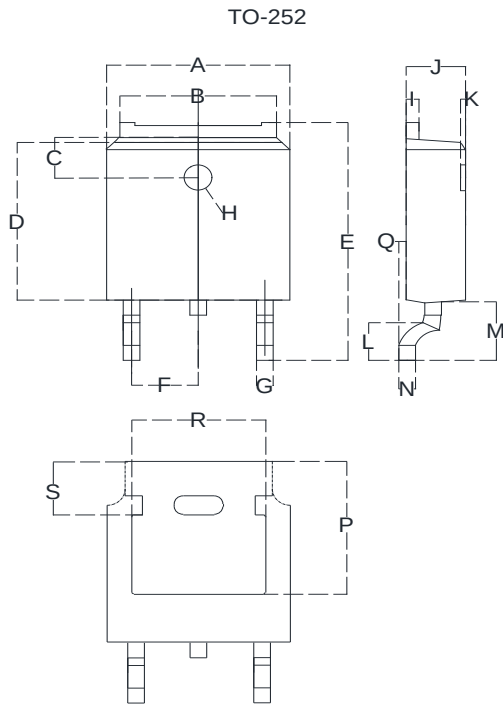


## ■ Characteristics(Typical)





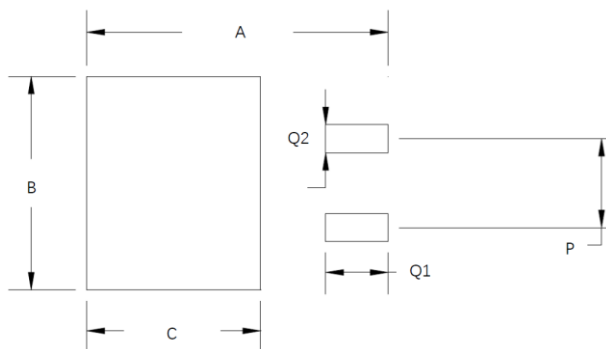
## ■ TO-252 Package information



Dimensions in millimeters

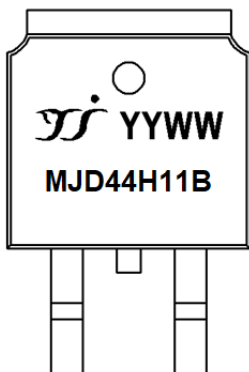
| TO-252 |         |         |
|--------|---------|---------|
| Dim    | Min     | Max     |
| A      | 6.500   | 6.700   |
| B      | 5.100   | 5.460   |
| C      | 1.400   | 1.800   |
| D      | 6.000   | 6.200   |
| E      | 10.000  | 10.400  |
| F      | 2.166   | 2.366   |
| G      | 0.660   | 0.860   |
| H      | Φ 1.050 | Φ 1.350 |
| I      | 0.460   | 0.580   |
| J      | 2.200   | 2.400   |
| K      | 0       | 0.300   |
| L      | 0.890   | 2.290   |
| M      | 2.730   | 3.080   |
| N      | 0.430   | 0.580   |
| P      | 5.15    | 5.45    |
| Q      | 0       | 0.2     |
| R      | 4.50    | 5.10    |
| S      | 1.60    | 2.40    |

## ■ Suggested Pad Layout



| Dim | Millimeters |
|-----|-------------|
| A   | 11.4        |
| B   | 6.74        |
| C   | 6.23        |
| P   | 4.56        |
| Q1  | 2.28        |
| Q2  | 1.52        |

## ■ Marking Code



YangJie LOGO

YYWW: YY, years; WW, week.

For example, 24 represents 2024; 01 represents the first week of this year.

MJD44H11B: Product model.



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