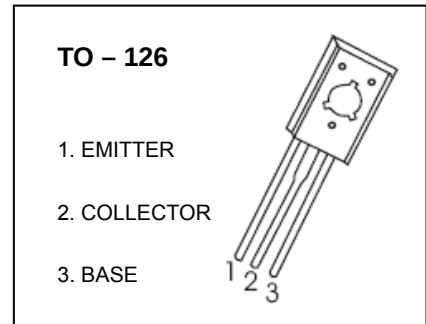


## TO-126 Plastic-Encapsulate Transistors

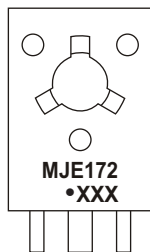
### MJE172 TRANSISTOR (PNP)

#### FEATURES

- Low Power Audio Amplifier
- Low Current, High Speed Switching Applications

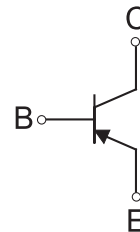


#### MARKING



MJE172=Device code  
Solid dot= Green molding compound device, if none, the normal device  
XXX=Code

#### Equivalent Circuit



#### ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| MJE172      | TO-126  | Bulk           | 200pcs/Bag    |
| MJE172-TU   | TO-126  | Tube           | 60pcs/Tube    |

#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

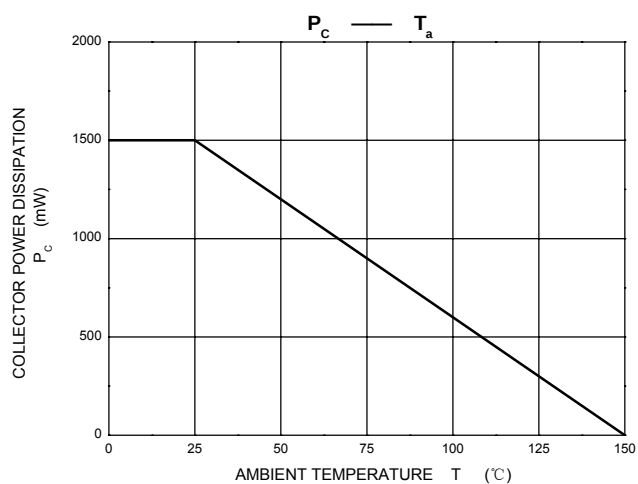
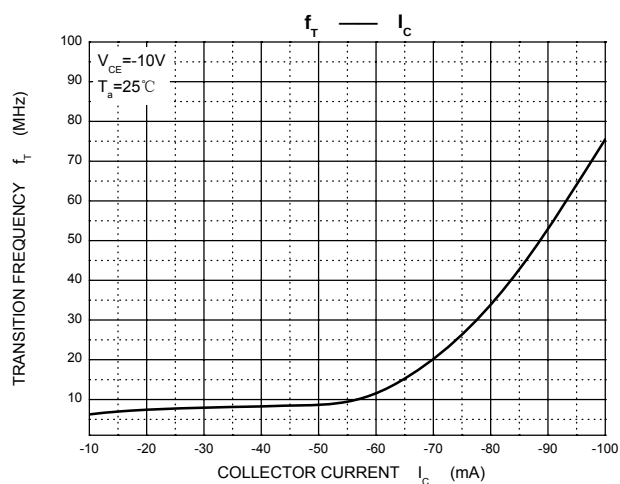
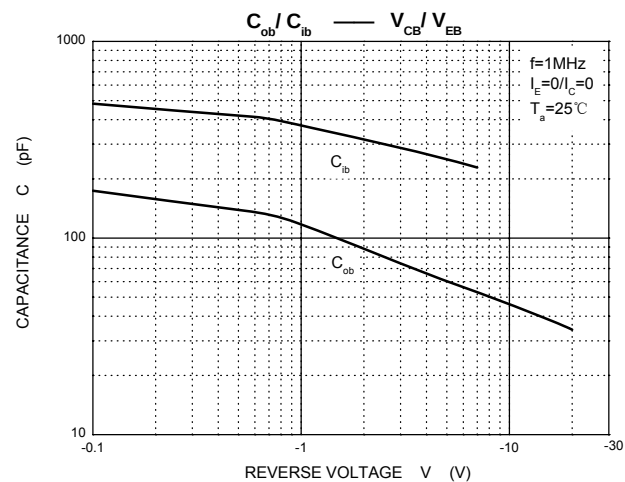
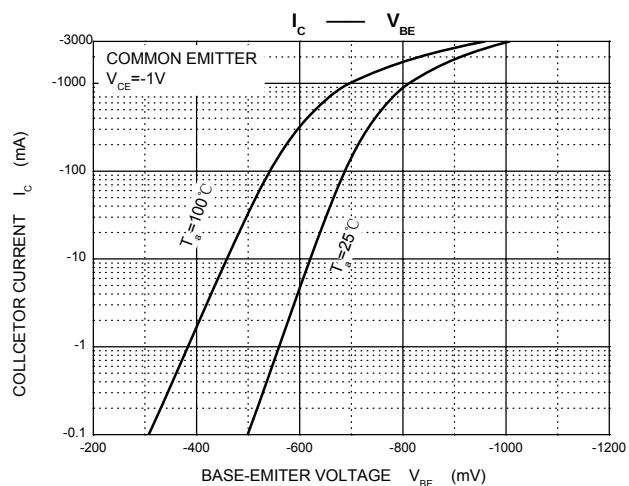
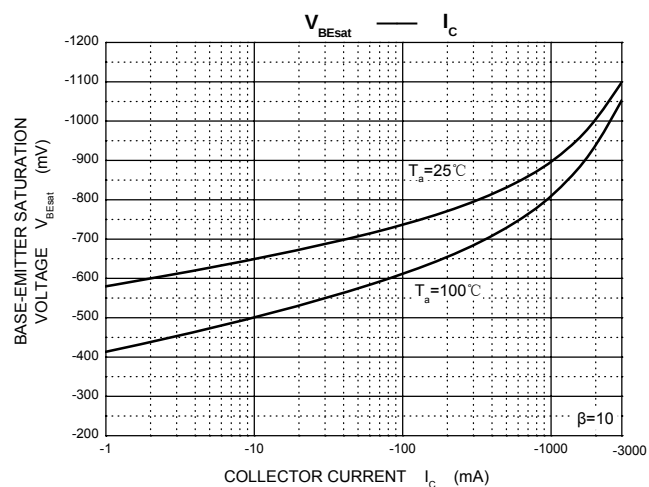
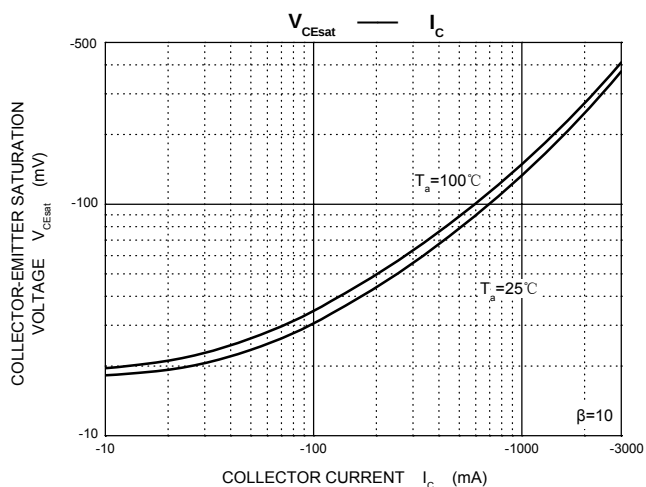
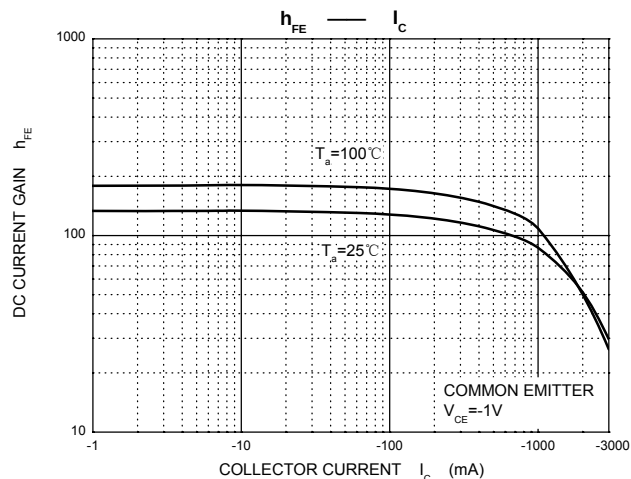
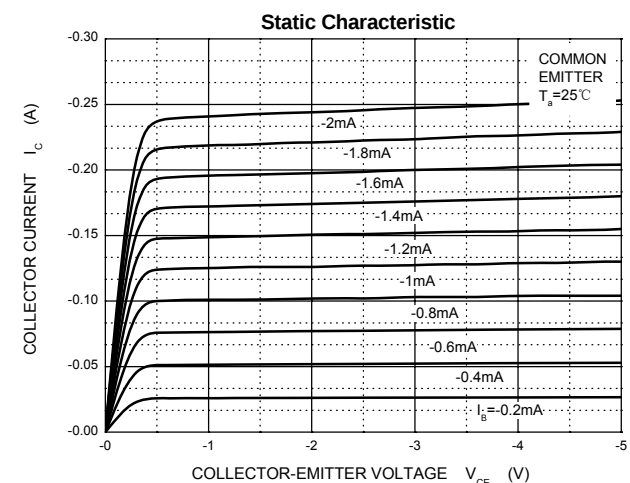
| Symbol          | Parameter                                   | Value    | Unit                 |
|-----------------|---------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | -100     | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                   | -80      | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                        | -7       | V                    |
| $I_C$           | Collector Current                           | -3       | A                    |
| $P_C$           | Collector Power Dissipation                 | 1.5      | W                    |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 83       | $^{\circ}\text{C/W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$   |

## ELECTRICAL CHARACTERISTICS

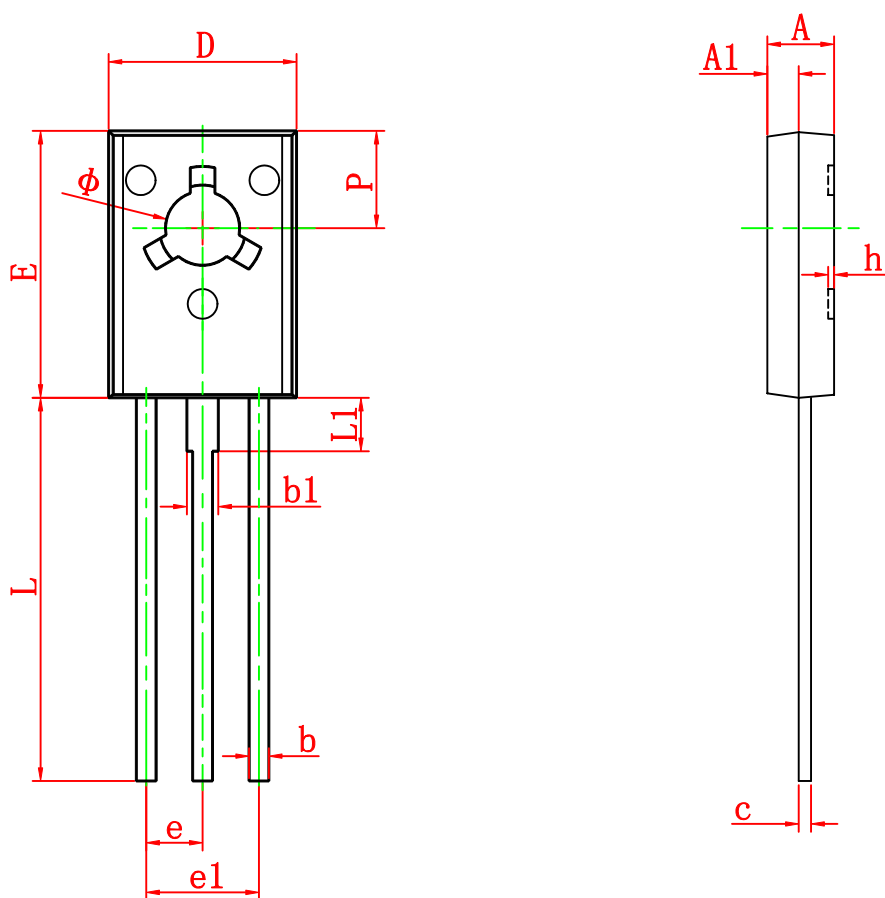
$T_a=25^{\circ}\text{C}$  unless otherwise specified

| Parameter                            | Symbol        | Test conditions                                         | Min  | Typ | Max  | Unit          |
|--------------------------------------|---------------|---------------------------------------------------------|------|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=-1\text{mA}, I_E=0$                                | -100 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=-10\text{mA}, I_B=0$                               | -80  |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=-1\text{mA}, I_C=0$                                | -7   |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-100\text{V}, I_E=0$                            |      |     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-7\text{V}, I_C=0$                              |      |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=-1\text{V}, I_C=-100\text{mA}$                  | 50   |     | 250  |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=-1\text{V}, I_C=-500\text{mA}$                  | 30   |     |      |               |
|                                      | $h_{FE(3)}$   | $V_{CE}=-1\text{V}, I_C=-1.5\text{A}$                   | 12   |     |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-500\text{mA}, I_B=-50\text{mA}$                   |      |     | -0.3 | V             |
|                                      |               | $I_C=-3\text{A}, I_B=-600\text{mA}$                     |      |     | -1.7 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=-1.5\text{A}, I_B=-150\text{mA}$                   |      |     | -1.5 | V             |
|                                      |               | $I_C=-3\text{A}, I_B=-600\text{mA}$                     |      |     | -2   | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=-1\text{V}, I_C=-500\text{mA}$                  |      |     | -1.2 | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, I_E=0, f=10\text{MHz}$             |      |     | 50   | pF            |
| Transition frequency                 | $f_T$         | $V_{CE}=-10\text{V}, I_C=-100\text{mA}, f=10\text{MHz}$ | 50   |     |      | MHz           |

# Typical Characteristics



## TO-126 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 2.500                     | 2.900  | 0.098                | 0.114 |
| A1     | 1.100                     | 1.500  | 0.043                | 0.059 |
| b      | 0.660                     | 0.860  | 0.026                | 0.034 |
| b1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| c      | 0.450                     | 0.600  | 0.018                | 0.024 |
| D      | 7.400                     | 7.800  | 0.291                | 0.307 |
| E      | 10.600                    | 11.000 | 0.417                | 0.433 |
| e      | 2.290 TYP                 |        | 0.090 TYP            |       |
| e1     | 4.480                     | 4.680  | 0.176                | 0.184 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 15.300                    | 15.700 | 0.602                | 0.618 |
| L1     | 2.100                     | 2.300  | 0.083                | 0.091 |
| P      | 3.900                     | 4.100  | 0.154                | 0.161 |
| Φ      | 3.000                     | 3.200  | 0.118                | 0.126 |