

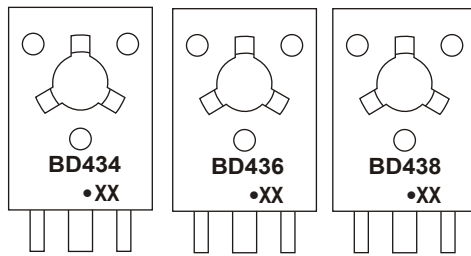
TO-126 Plastic-Encapsulate Transistors

BD434 / BD436 / BD438 TRANSISTOR (PNP)

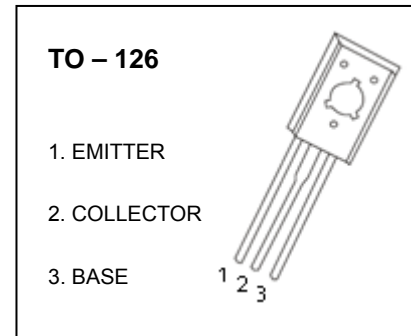
FEATURES

- Amplifier and Switching Applications
- Complement To BD433, BD435 And BD437

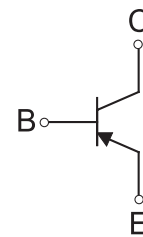
MARKING



BD434, BD436, BD438 = Device code
 Solid dot = Green molding compound device, if none, the normal device
 XX = Code



Equivalent Circuit



ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| BD434 | TO-126 | Bulk | 200pcs/Bag |
| BD436 | TO-126 | Bulk | 200pcs/Bag |
| BD438 | TO-126 | Bulk | 200pcs/Bag |
| BD434-TU | TO-126 | Tube | 60pcs/Tube |
| BD436-TU | TO-126 | Tube | 60pcs/Tube |
| BD438-TU | TO-126 | Tube | 60pcs/Tube |

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------|-------------------------------|---------|------|
| V _{CBO} | Collector-Base Voltage | BD434 | -22 |
| | | BD436 | -32 |
| | | BD438 | -45 |
| V _{CEO} | Collector-Emitter Voltage | BD434 | -22 |
| | | BD436 | -32 |
| | | BD438 | -45 |
| V _{EBO} | Emitter-Base Voltage | -5 | V |
| I _C | Collector Current –Continuous | -4 | A |
| P _C | Collector Power Dissipation | 1.25 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55-150 | °C |

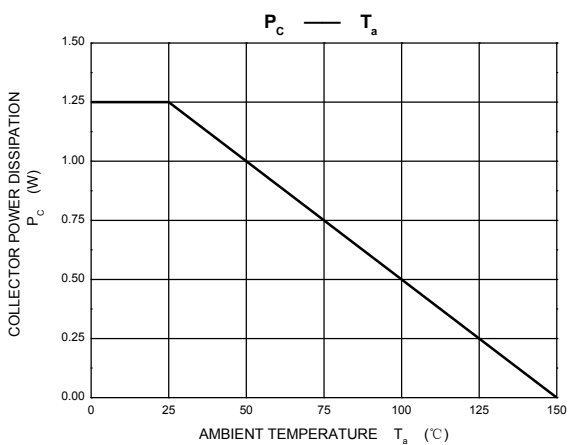
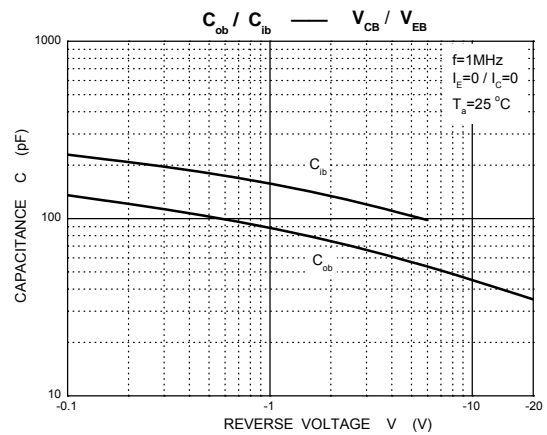
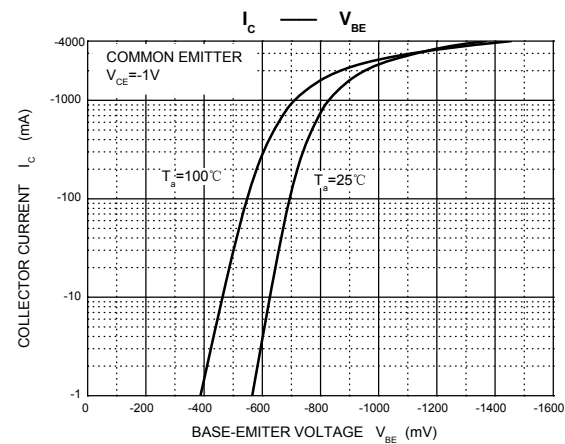
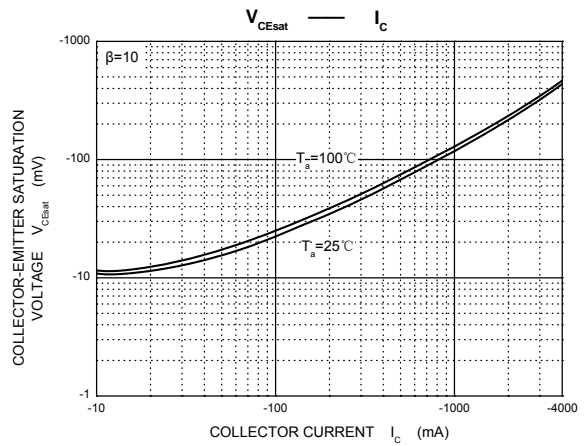
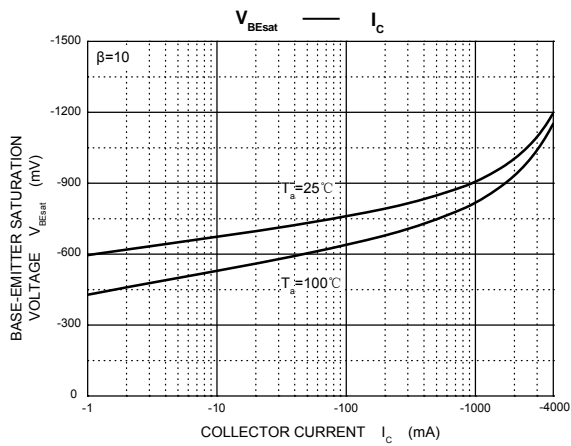
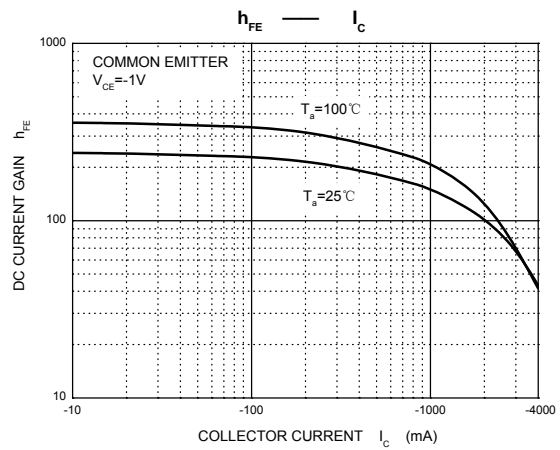
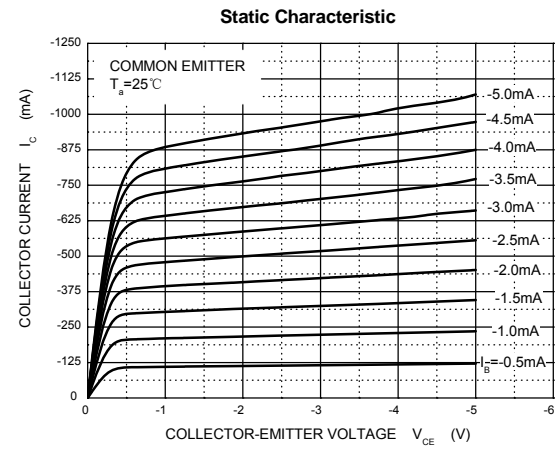
ELECTRICAL CHARACTERISTICS

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

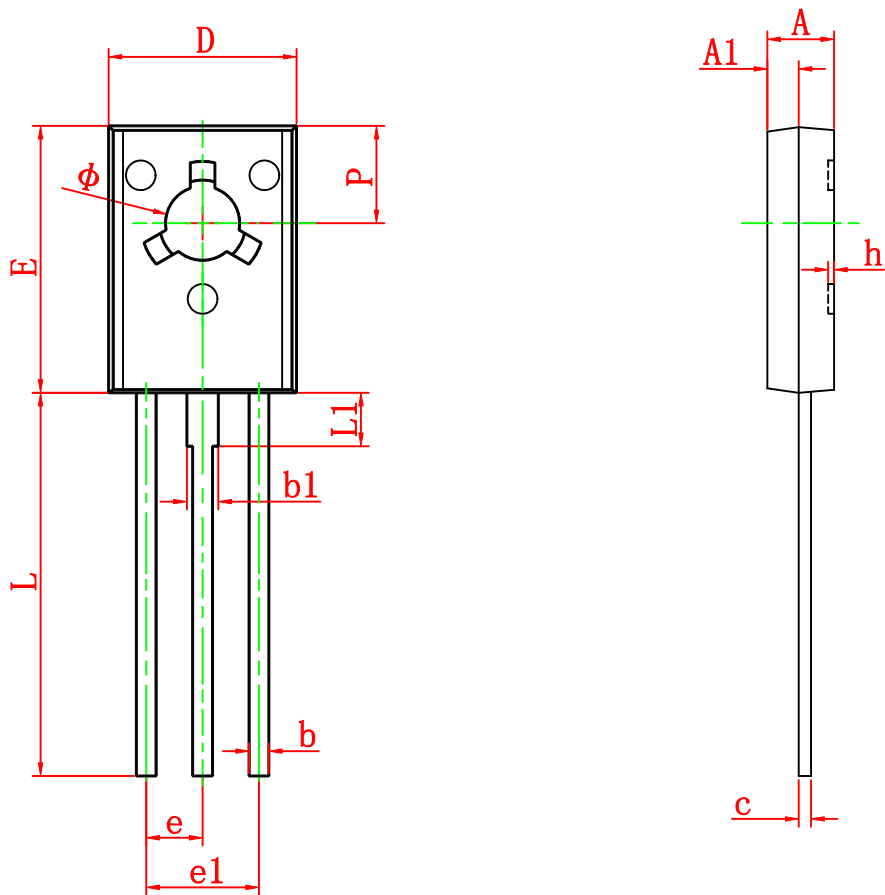
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|-------------------------------------|----------------------------------------|-------------|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | BD434 | -22 | | | V |
| | | BD436 | -32 | | | |
| | | BD438 | -45 | | | |
| Collector-emitter breakdown voltage | $V_{CE(SUS)}^{(1)}$ | BD434 | -22 | | | V |
| | | BD436 | -32 | | | |
| | | BD438 | -45 | | | |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-100\mu\text{A}, I_C=0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-22\text{V}, I_E=0$ | BD434 | | | μA |
| | | $V_{CB}=-32\text{V}, I_E=0$ | BD436 | | -100 | |
| | | $V_{CB}=-45\text{V}, I_E=0$ | BD438 | | | |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-5\text{V}, I_E=0$ | | | -1 | mA |
| DC current gain | $h_{FE(1)}^{(1)}$ | $V_{CE}=-1\text{V}, I_C=-500\text{mA}$ | 85 | | 375 | |
| | $h_{FE(2)}^{(1)}$ | $V_{CE}=-5\text{V}, I_C=-10\text{mA}$ | BD434/BD436 | 40 | | |
| | | | BD438 | 30 | | |
| $h_{FE(3)}^{(1)}$ | $V_{CE}=-1\text{V}, I_C=-2\text{A}$ | BD434/BD436 | 50 | | | |
| | | BD438 | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}^{(1)}$ | $I_C=-2\text{A}, I_B=-0.2\text{A}$ | BD434/BD436 | | -0.5 | V |
| | | $I_C=-3\text{A}, I_B=-0.3\text{A}$ | BD438 | | -0.7 | |
| Base-emitter voltage | $V_{BE}^{(1)}$ | $V_{CE}=-1\text{V}, I_C=-2\text{A}$ | BD434/BD436 | | -1.1 | V |
| | | | BD438 | | -1.2 | |
| Transition frequency | f_T | $V_{CE}=-1\text{V}, I_C=-250\text{mA}$ | 3 | | | MHz |

⁽¹⁾Pulse test.

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 |