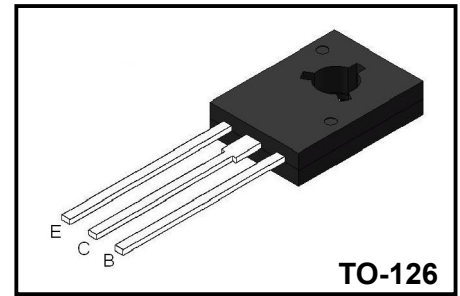


PNP Plastic-Encapsulate Transistors

Medium Power Linear and Switching Applications

➤ Complement to BD135, BD137 and BD137 respectively



Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Value | | | Unit |
|-----------------------------|------------|---------|-------|-------|------|
| | | BD136 | BD138 | BD140 | |
| Collector-Base Voltage | BV_{CBO} | -45 | -60 | -80 | V |
| Collector-Emitter Voltage | BV_{CEO} | -45 | -60 | -80 | V |
| Emitter-Base Voltage | BV_{EBO} | -5 | | | V |
| Collector Current (DC) | I_C | -1.5 | | | A |
| Collector Current (Pulse) | I_{CP} | -3.0 | | | A |
| Collector Power Dissipation | P_C | Ta=25°C | | | W |
| | | Tc=25°C | | | |
| Junction Temperature | T_j | 150 | | | °C |
| Storage Temperature | T_{stg} | -55~150 | | | °C |

Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | Value | | | Unit |
|---------------------------------------|-------------------------|------------------------------|------------------------|-------------------|------|---------|
| | | | Min | Typ | Max | |
| Collector-Emitter Sustaining Voltage* | BD136 BD138 BD140 | BV_{CES} | $I_C = -10mA, I_B = 0$ | -45 -60 -80 | | V |
| Emitter-base breakdown voltage | BV_{EBO} | $I_E = -100\mu A, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -30V, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | | -10 | μA |
| DC current gain* | h_{FE1} | $V_{CE} = -2V, I_C = -5mA$ | 25 | | | |
| | h_{FE2} | $V_{CE} = -2V, I_C = -0.5A$ | 25 | | | |
| | h_{FE3} | $V_{CE} = -2V, I_C = -150mA$ | 40 | | 250 | |
| Collector-emitter saturation voltage* | $V_{CE(sat)}$ | $I_C = -500mA, I_B = -50mA$ | | | -0.5 | V |
| Base-emitter saturation voltage* | $V_{BE(on)}$ | $V_{CE} = -2V, I_C = -0.5A$ | | | -1 | V |

* Pulse Test : PW=350 μ s, Duty Cycle = 2% Pulsed

h_{FE3} Classification

| Classification | 6 | 10 | 16 |
|----------------|--------|--------|---------|
| Range | 40-100 | 63-160 | 100-250 |

Typical Characteristics



Figure 1. DC current Gain

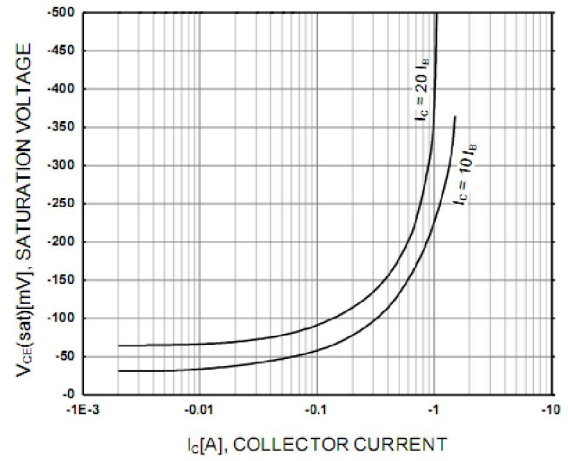


Figure 2. Collector-Emitter Saturation Voltage

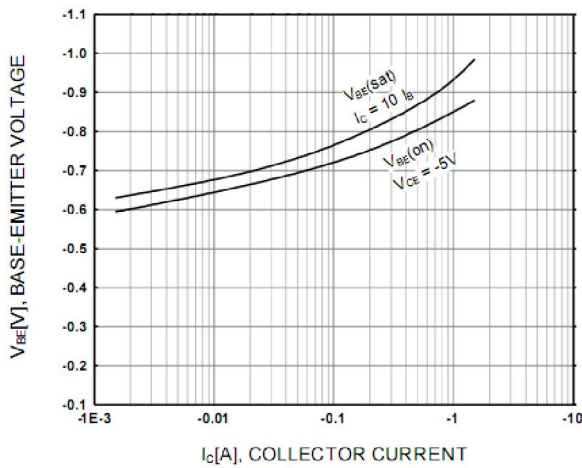


Figure 3. Base-Emitter Voltage

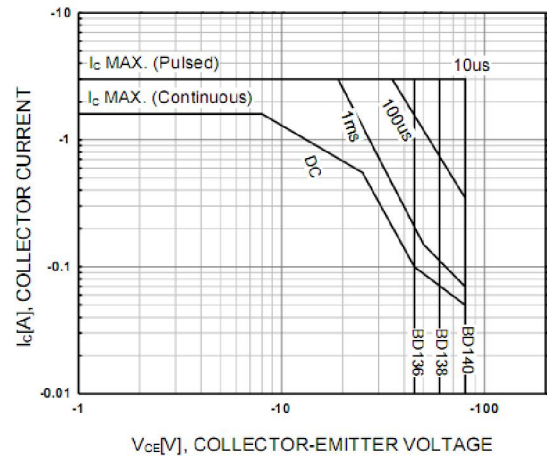


Figure 4. Safe Operating Area

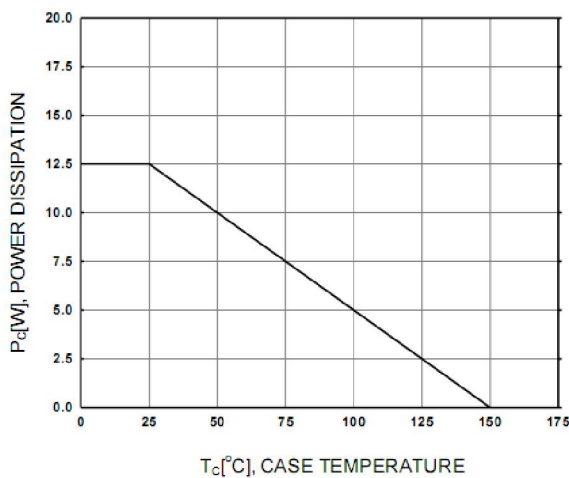


Figure 5. Power Derating

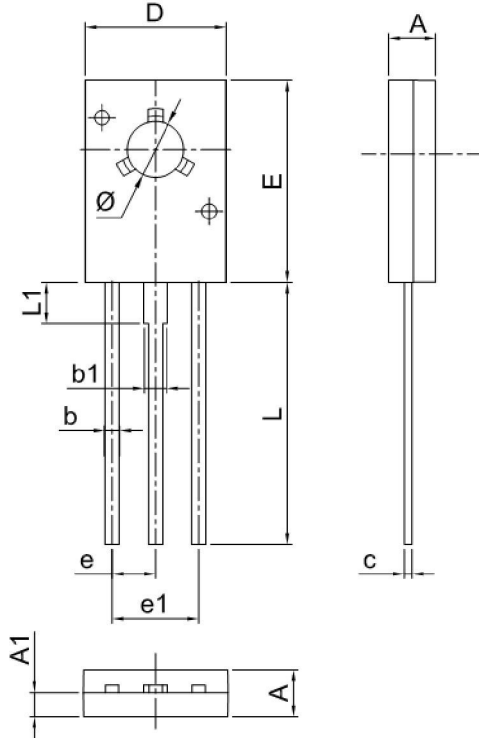
Ordering information

| Package | Packing Description | Base Quantity |
|---------|---------------------|---------------|
| TO-126 | Bulk | 500pcs/Bag |

Package Dimensions

TO-126

| Symbol | Millimeter | | Inches | |
|--------|------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.40 | 2.80 | 0.094 | 0.110 |
| A1 | 1.00 | 1.40 | 0.039 | 0.055 |
| b | 0.66 | 0.86 | 0.026 | 0.034 |
| b1 | 1.17 | 1.37 | 0.046 | 0.054 |
| c | 0.40 | 0.60 | 0.016 | 0.024 |
| D | 7.30 | 7.70 | 0.287 | 0.303 |
| E | 10.60 | 11.00 | 0.417 | 0.433 |
| e | 2.25 | 2.33 | 0.089 | 0.092 |
| e1 | 4.50 | 4.66 | 0.177 | 0.183 |
| L | 14.00 | 15.00 | 0.551 | 0.591 |
| L1 | 1.90 | 2.50 | 0.075 | 0.098 |
| Φ | 3.10 | 3.30 | 0.122 | 0.130 |



Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.