



TO-126 Plastic-Encapsulated Transistors

BD135/BD137/BD139 TRANSISTOR (NPN)

FEATURES

Power dissipation

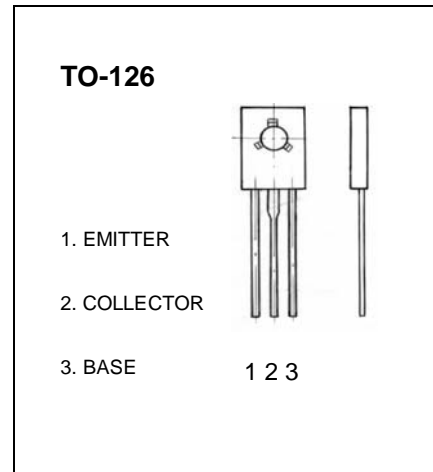
$$P_{CM}: 1.25 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM}: 1.5 \text{ A}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55°C \text{ to } +150°C$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|------------------------|------------------------|-------------|-----|-----|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$ | BD135 | 45 | | V |
| | | | BD137 | 60 | | |
| | | | BD139 | 80 | | |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=30mA, I_B=0$ | BD135 | 45 | | V |
| | | | BD137 | 60 | | |
| | | | BD139 | 80 | | |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$ | 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 | $h_{FE(1)}$ | $V_{CE}=2V, I_C=5mA$ | 25 | | | |
| | $h_{FE(2)}$ | $V_{CE}=2V, I_C=150mA$ | BD135 | 40 | 250 | |
| | | | BD137/BD139 | 40 | 160 | |
| $h_{FE(3)}$ | $V_{CE}=2V, I_C=500mA$ | 25 | | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500mA, I_B=50mA$ | | | 0.5 | V |
| Base-emitter voltage | V_{BE} | $V_{CE}=2V, I_C=500mA$ | | | 1 | V |

CLASSIFICATION OF $h_{FE(2)}$

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