

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

BD135
BD137
BD139

9097250 TOSHIBA (DISCRETE/OPTO)

56C 08068 07-33-05

MEDIUM POWER AMPLIFIER APPLICATIONS.

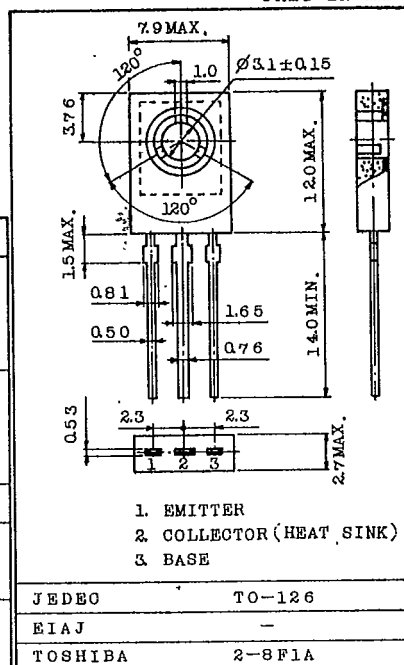
Unit in mm

FEATURES:

- Designed for Complementary Use with BD136, BD138 and BD140.

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|-----------------------------|-----------|-----------|------------------|
| Collector-Base Voltage | BD135 | V_{CB0} | 45 | V |
| | BD137 | | 60 | |
| | BD139 | | 80 | |
| Collector-Emitter Voltage | BD135 | V_{CEO} | 45 | V |
| | BD137 | | 60 | |
| | BD139 | | 80 | |
| Emitter-Base Voltage | | V_{EBO} | 5 | V |
| Collector Current | DC | I_C | 0.5 | A |
| | Peak | I_{CM} | 1.5 | |
| Collector Power Dissipation | $T_a=25^\circ\text{C}$ | P_C | 1 | W |
| | $T_a \leq 60^\circ\text{C}$ | | 6.5 | |
| Junction Temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{stg} | -55 ~ 150 | $^\circ\text{C}$ |



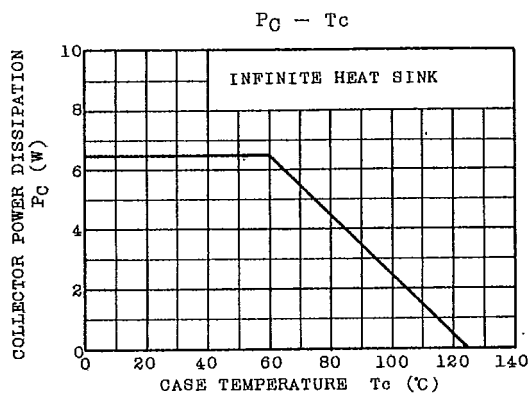
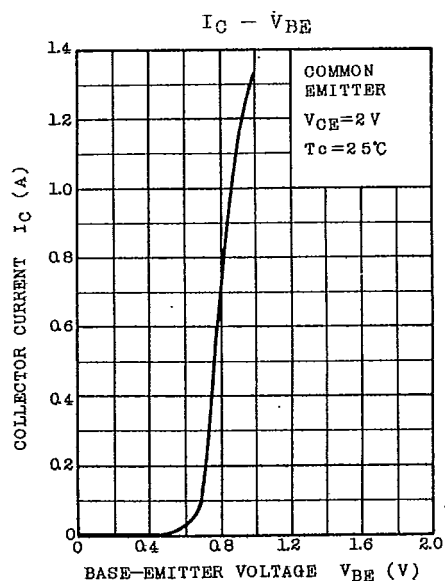
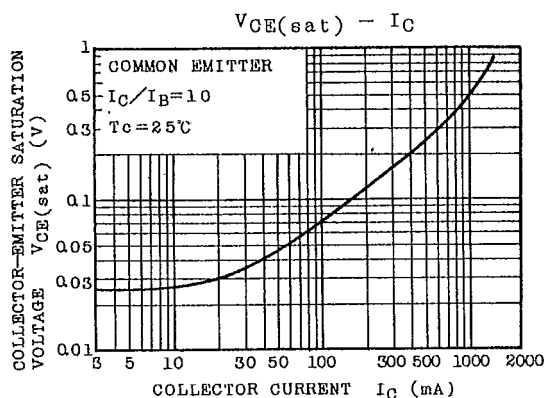
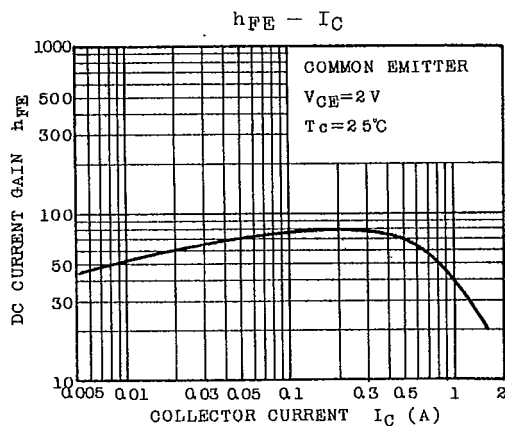
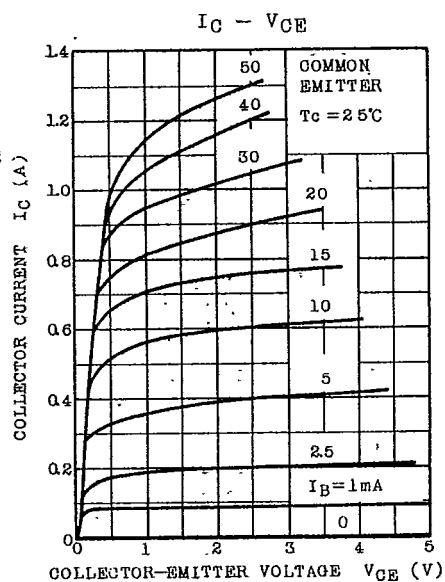
Weight : 0.72g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------|---------------|---|------|------|------|---------------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=30\text{V}, I_E=0$ | - | - | 0.1 | μA |
| | | | $V_{CB}=30\text{V}, I_E=0, T_a=125^\circ\text{C}$ | - | - | 10 | |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | - | - | 10 | μA |
| Collector-Emitter Breakdown Voltage | BD135 | $V_{(BR)CEO}$ | $I_C=30\text{mA}, I_B=0$ | 45 | - | - | V |
| | BD137 | | | 60 | - | - | |
| | BD139 | | | 80 | - | - | |
| DC Current Gain | | $h_{FE}(1)$ | $V_{CE}=2\text{V}, I_C=5\text{mA}$ | 25 | - | - | |
| | | $h_{FE}(2)$ | $V_{CE}=2\text{V}, I_C=150\text{mA}$ | 40 | - | 250 | |
| | | $h_{FE}(3)$ | $V_{CE}=2\text{V}, I_C=500\text{mA}$ | 25 | - | - | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | - | - | 0.5 | V |
| Base-Emitter Voltage | | V_{BE} | $V_{CE}=2\text{V}, I_C=500\text{mA}$ | - | - | 1.0 | V |
| Transition Frequency | | f_T | $V_{CE}=2\text{V}, I_C=50\text{mA}$ | 50 | 250 | - | MHz |

9097250 TOSHIBA (DISCRETE/OPTO)

56C 08069 DT-33-05

BD135•BD137•BD139

9097250 TOSHIBA (DISCRETE/OPTO)

56C 08070 DT-33-05

BD135•BD137•BD139

