

2SD2137, 2SD2137A

Silicon NPN Triple-Diffused Planar Type

Power Amplifier

Complementary Pair with 2SB1417, 2SB1417A

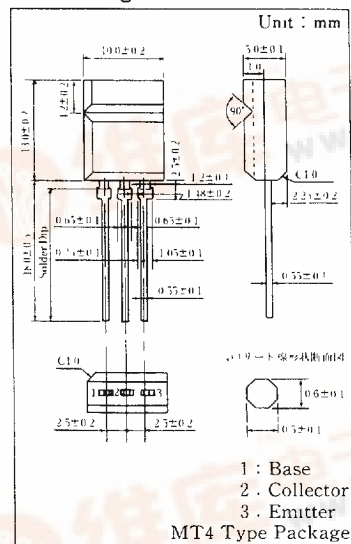
■ Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Automatic mounting by radial taping is possible.

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

| Item | Symbol | Value | Unit |
|-----------------------------|-----------|-----------------|------------------|
| Collector-base voltage | V_{CBO} | 60 | V |
| | | 80 | |
| Collector-emitter voltage | V_{CEO} | 60 | V |
| | | 80 | |
| Emitter-base voltage | V_{FBO} | 6 | V |
| Peak collector current | I_{CP} | 5 | A |
| Collector current | I_C | 3 | A |
| Collector power dissipation | P_C | 15 | W |
| | | 2 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | $-55 \sim +150$ | $^\circ\text{C}$ |

■ Package Dimensions



■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

| Item | Symbol | Condition | min. | typ. | max. | Unit |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector cutoff current | I_{CES} | $V_{CE}=60\text{V}, V_{BE}=0$ | | | 100 | μA |
| | | $V_{CE}=80\text{V}, V_{BE}=0$ | | | 100 | |
| Collector cutoff current | I_{CFO} | $V_{CE}=30\text{V}, I_B=0$ | | | 100 | μA |
| | | $V_{CE}=60\text{V}, I_B=0$ | | | 100 | |
| Emitter cutoff current | I_{LEO} | $V_{EB}=6\text{V}, I_C=0$ | | | 100 | μA |
| Collector-emitter voltage | V_{CEO} | $I_C=30\text{mA}, I_B=0$ | 60 | | | V |
| | | | 80 | | | |
| DC current gain | h_{FE1}^* | $V_{CE}=4\text{V}, I_C=1\text{A}$ | 70 | | 320 | |
| | | $V_{CE}=4\text{V}, I_C=3\text{A}$ | 10 | | | |
| Base-emitter voltage | V_{BE} | $V_{CE}=4\text{V}, I_C=3\text{A}$ | | | 1.8 | V |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=3\text{A}, I_B=0.375\text{A}$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}, I_C=0.2\text{A}, f=10\text{MHz}$ | | 30 | | MHz |
| Turn-on time | t_{on} | $I_C=1\text{A}, I_{B1}=0.1\text{A}, I_{B2}=-0.1\text{A}$ $V_{CC}=50\text{V}$ | | 0.3 | | μs |
| Storage time | t_{stg} | | | 2.5 | | μs |
| Collector current fall time | t_f | | | 0.2 | | μs |

* h_{FE1} Classifications

| Class | Q | P | O |
|-------|----------|-----------|-----------|
| | 70 ~ 150 | 120 ~ 250 | 160 ~ 320 |

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