
2SD1367

Silicon NPN Epitaxial

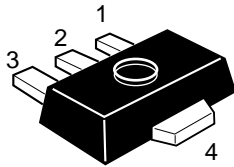
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Application

- Low frequency power amplifier
- Complementary pair with 2SB1001

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Rated | Unit |
|------------------------------|--------------------|-------------|------|
| Collector to base voltage | V_{CBO} | 20 | V |
| Collector to emitter voltage | V_{CEO} | 16 | V |
| Emitter to base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 2 | A |
| Collector peak current | $i_{C(peak)}^{*1}$ | 3 | A |
| Collector power dissipation | P_C^{*2} | 1 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Notes: 1. $PW \leq 10$ ms, Duty cycle $\leq 20\%$.

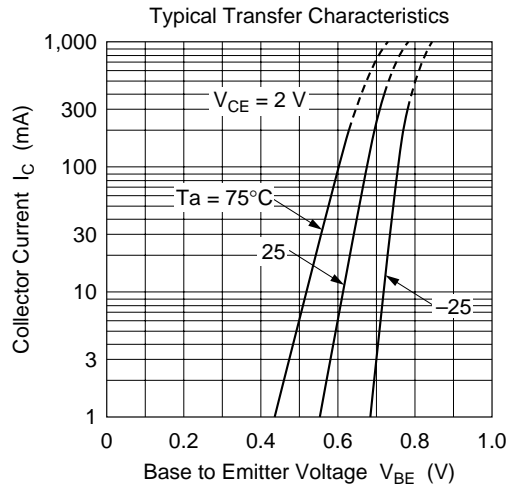
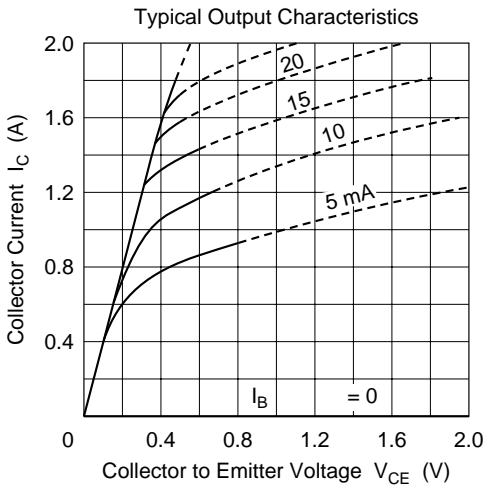
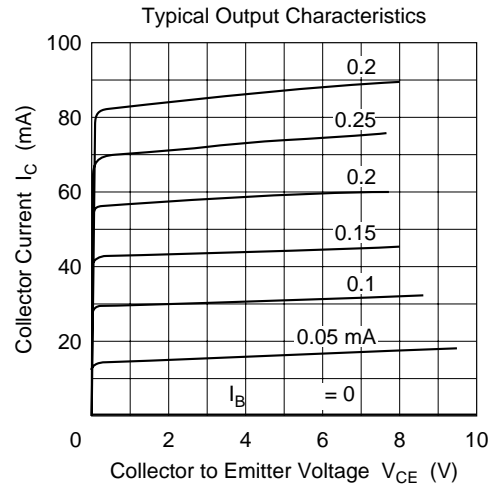
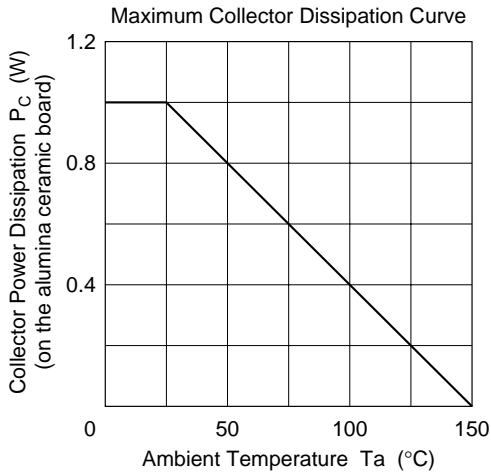
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

Electrical Characteristics (Ta = 25°C)

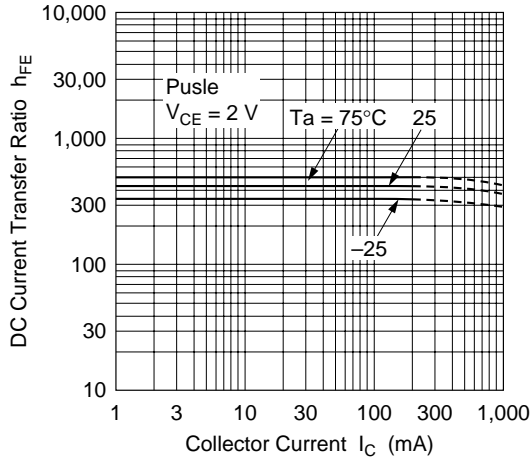
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------|-----|------|-----|---------|---------------------------------------|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 20 | — | — | V | $I_C = 10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 16 | — | — | V | $I_C = 1$ mA, $R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 6 | — | — | V | $I_E = 10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 0.1 | μA | $V_{CB} = 16$ V, $I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | 0.1 | μA | $V_{EB} = 5$ V, $I_C = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 100 | — | 500 | | $V_{CE} = 2$ V, $I_C = 0.1$ A, Pulse |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | 0.15 | 0.3 | V | $I_C = 1$ A, $I_B = 0.1$ A, Pulse |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | — | 0.9 | 1.2 | V | $I_C = 1$ A, $I_B = 0.1$ A, Pulse |
| Gain bandwidth product | f_T | — | 100 | — | MHz | $V_{CE} = 2$ V, $I_C = 10$ mA |
| Collector output capacitance | C_{ob} | — | 20 | — | pF | $V_{CB} = 10$ V, $I_E = 0, f = 1$ MHz |

Note: 1. The 2SD1367 is grouped by h_{FE} as follows.

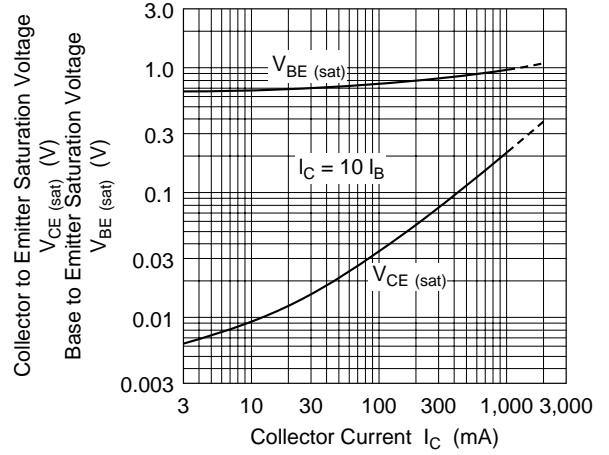
| Mark | BA | BB | BC |
|----------|------------|------------|------------|
| h_{FE} | 100 to 200 | 160 to 320 | 250 to 500 |



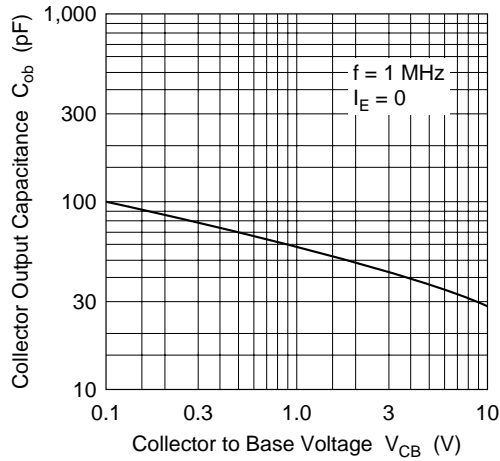
DC Current Transfer Ratio vs. Collector Current

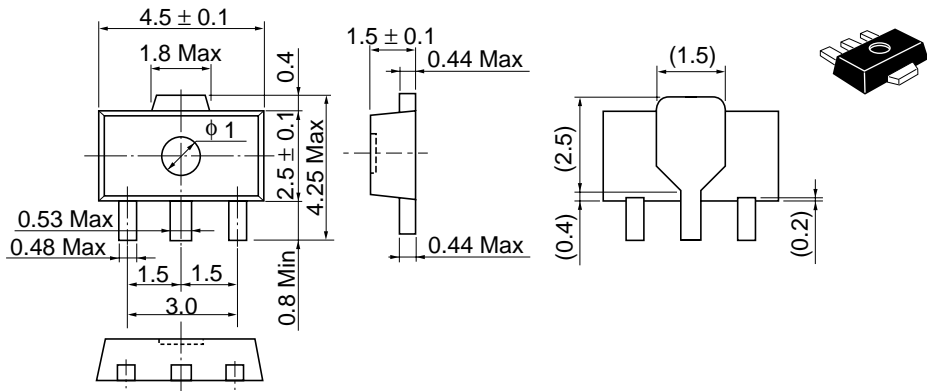


Saturation Voltage vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





| | |
|--------------------------|----------|
| Hitachi Code | UPAK |
| JEDEC | — |
| EIAJ | Conforms |
| Weight (reference value) | 0.050 g |

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