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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SA1374

Silicon PNP Epitaxial

RENESAS

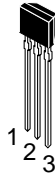
ADE-208-1016 (Z)
1st. Edition
Mar. 2001

Application

Low frequency amplifier

Outline

SPAK



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage | V_{CBO} | -55 | V |
| Collector to emitter voltage | V_{CEO} | -55 | V |
| Emitter to base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -100 | mA |
| Base current | I_B | -30 | mA |
| Collector power dissipation | P_C | 300 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

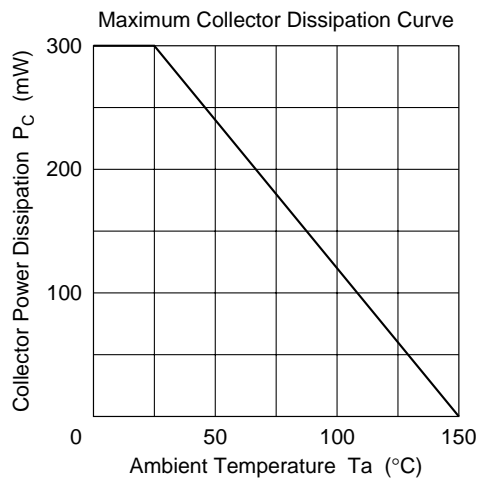
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------|-----|-------|-------|---------|--|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | -55 | — | — | V | $I_C = -10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -55 | — | — | V | $I_C = -1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -5 | — | — | V | $I_E = -10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -0.1 | μA | $V_{CB} = -18 \text{ V}, I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.05 | μA | $V_{EB} = -2 \text{ V}, I_E = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 160 | — | 500 | | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Base to emitter voltage | V_{BE} | — | -0.66 | -0.75 | V | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | -0.1 | -0.5 | V | $I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$ |
| Gain bandwidth product | f_T | — | 250 | — | MHz | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 2.5 | — | pF | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ |

Note: 1. The 2SA1374 is grouped by h_{FE} as follows.

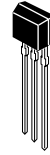
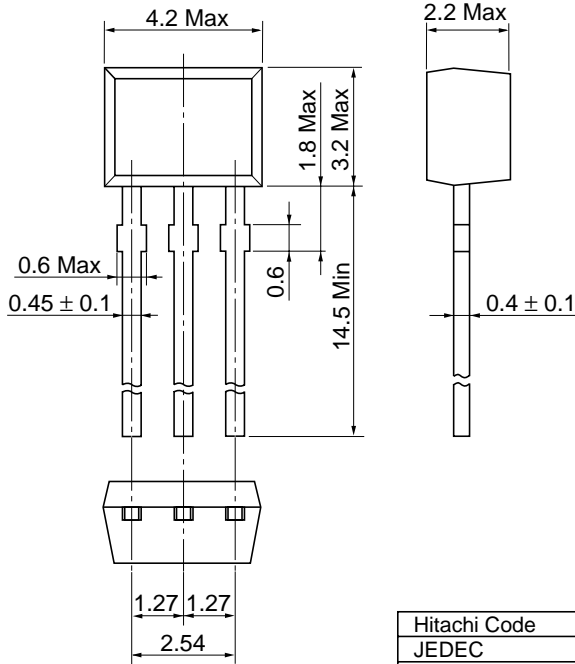
| C | D |
|------------|------------|
| 160 to 320 | 250 to 500 |

See characteristic curves of 2SA836.



Package Dimensions

As of January, 2001
Unit: mm



| | |
|------------------------|--------|
| Hitachi Code | SPAK |
| JEDEC | — |
| EIAJ | — |
| Mass (reference value) | 0.10 g |

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