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# 2SD1101

Silicon NPN Epitaxial

# HITACHI

ADE-208-1142 (Z)  
1st. Edition  
Mar. 2001

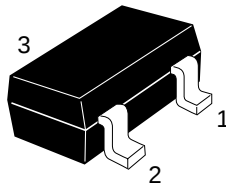
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## Application

- Low frequency amplifier
- Complementary pair with 2SB831

## Outline

MPAK



1. Emitter
2. Base
3. Collector

# 2SD1101

## Absolute Maximum Ratings (Ta = 25°C)

| Item                         | Symbol        | Ratings     | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$     | 25          | V    |
| Collector to emitter voltage | $V_{CEO}$     | 20          | V    |
| Emitter to base voltage      | $V_{EBO}$     | 5           | V    |
| Collector current            | $I_C$         | 0.7         | A    |
| Collector peak current       | $i_{C(peak)}$ | 1           | A    |
| Collector power dissipation  | $P_C$         | 150         | mW   |
| Junction temperature         | $T_j$         | 150         | °C   |
| Storage temperature          | $T_{stg}$     | -55 to +150 | °C   |

## Electrical Characteristics (Ta = 25°C)

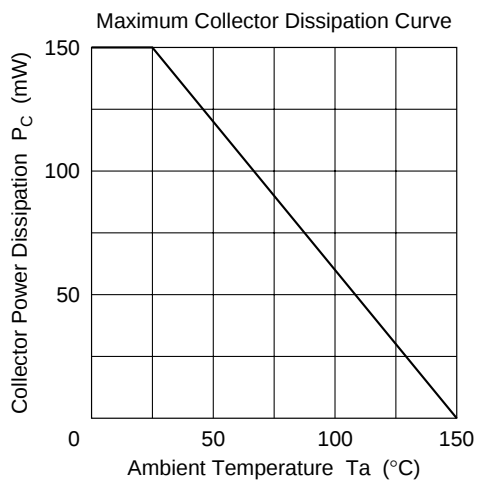
| Item                                    | Symbol        | Min | Typ | Max | Unit    | Test conditions                                   |
|-----------------------------------------|---------------|-----|-----|-----|---------|---------------------------------------------------|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | 25  | —   | —   | V       | $I_C = 10 \mu A, I_E = 0$                         |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | 20  | —   | —   | 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                | $I_{CBO}$     | —   | —   | 1.0 | $\mu A$ | $V_{CB} = 20 \text{ V}, I_E = 0$                  |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 85  | —   | 240 |         | $V_{CE} = 1 \text{ V}, I_C = 0.15 \text{ A}^{*2}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | 0.5 | V       | $I_C = 0.5 \text{ A}, I_B = 0.05 \text{ A}^{*2}$  |
| Base to emitter voltage                 | $V_{BE}$      | —   | —   | 1.0 | V       | $V_{CE} = 1 \text{ V}, I_C = 0.15 \text{ A}^{*2}$ |

Notes: 1. The 2SD1101 is grouped by  $h_{FE}$  as follows.

2. Pulse test

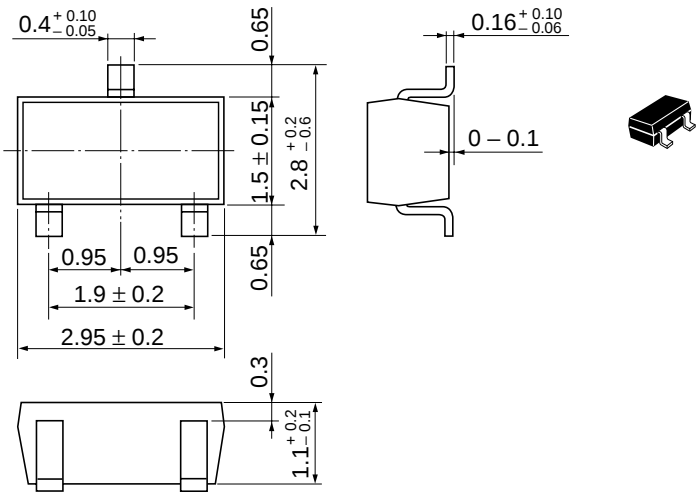
| Grade    | B         | C          |
|----------|-----------|------------|
| Mark     | AB        | AC         |
| $h_{FE}$ | 85 to 170 | 120 to 240 |

See characteristic curves of 2SD467.



Package Dimensions

As of January, 2001  
Unit: mm



|                        |          |
|------------------------|----------|
| Hitachi Code           | MPAK     |
| JEDEC                  | —        |
| EIAJ                   | Conforms |
| Mass (reference value) | 0.011 g  |

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