

2SA1029, 2SA1030

Silicon PNP Epitaxial

HITACHI

ADE-208-1004A (Z)

2nd. Edition

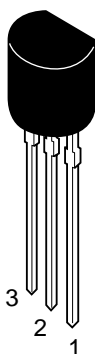
Mar. 2001

Application

- Low frequency amplifier
- Complementary pair with 2SC458 and 2SC2308

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SA1029, 2SA1030

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | 2SA1029 | 2SA1030 | Unit |
|------------------------------|-----------|-------------|-------------|------|
| Collector to base voltage | V_{CBO} | -30 | -55 | V |
| Collector to emitter voltage | V_{CEO} | -30 | -50 | V |
| Emitter to base voltage | V_{EBO} | -5 | -5 | V |
| Collector current | I_C | -100 | -100 | mA |
| Emitter current | I_E | 100 | 100 | mA |
| Collector power dissipation | P_C | 300 | 300 | mW |
| Junction temperature | T_j | 150 | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | -55 to +150 | °C |

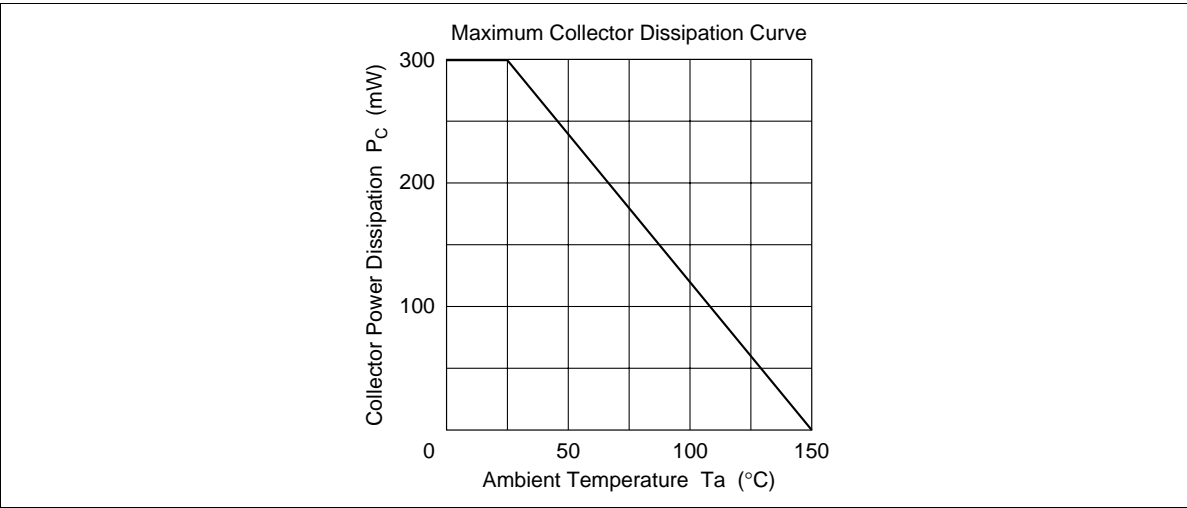
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | 2SA1029 | | | 2SA1030 | | | Unit | Test conditions |
|---|---------------|---------|-----|------|---------|-----|------|---------|--|
| | | Min | Typ | Max | Min | Typ | Max | | |
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | -30 | — | — | -55 | — | — | V | $I_C = -10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -30 | — | — | -50 | — | — | V | $I_C = -1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -5 | — | — | -5 | — | — | V | $I_E = -10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -0.5 | — | — | -0.5 | μA | $V_{CB} = -18 \text{ V}, I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.5 | — | — | -0.5 | μA | $V_{EB} = -2 \text{ V}, I_C = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 100 | — | 500 | 100 | — | 320 | | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Base to emitter voltage | V_{BE} | — | — | -0.8 | — | — | -0.8 | V | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | -0.2 | — | — | -0.2 | V | $I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$ |
| Gain bandwidth product | f_T | 200 | 280 | — | 200 | 280 | — | MHz | $V_{CB} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 3.3 | 4.0 | — | 3.3 | 4.0 | pF | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ |

Note: 1. The 2SA1029 and 2SA1030 are grouped by h_{FE} as follows.

| | B | C | D |
|---------|------------|------------|------------|
| 2SA1029 | 100 to 200 | 160 to 320 | 250 to 500 |
| 2SA1030 | 100 to 200 | 160 to 320 | — |

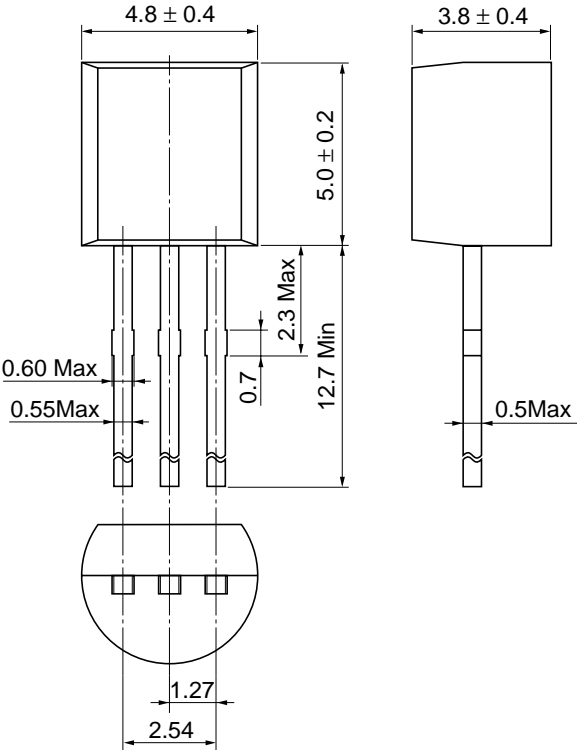
See characteristic curves of 2SA1052.



2SA1029, 2SA1030

Package Dimensions

As of January, 2001
Unit: mm



| | |
|------------------------|-----------|
| Hitachi Code | TO-92 (1) |
| JEDEC | Conforms |
| EIAJ | Conforms |
| Mass (reference value) | 0.25 g |

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