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

Cautions

Keep safety first in your circuit designs!

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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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2SB1494

Silicon PNP Triple Diffused

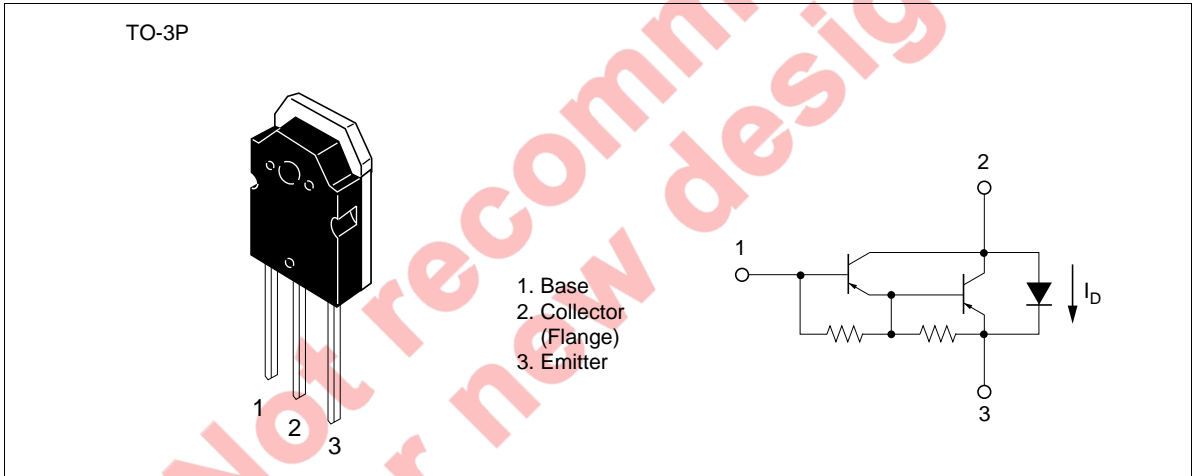
RENESAS

ADE-208-878 (Z)
1st. Edition
September 2000

Application

Low frequency power amplifier complementary Pair with 2SD2256

Outline



Absolute Maximum Ratings (Ta = 25°C)

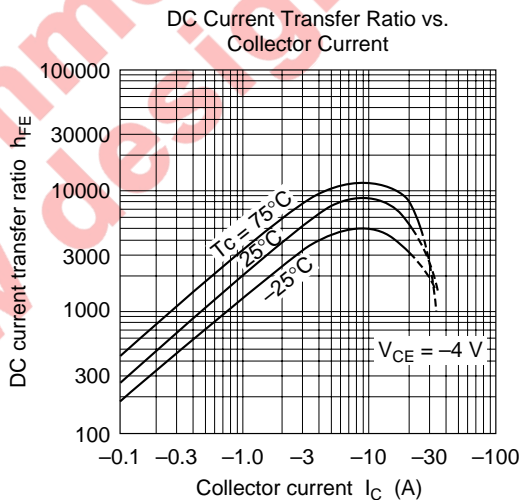
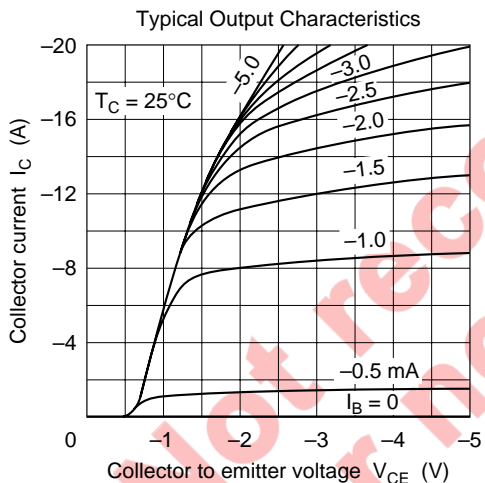
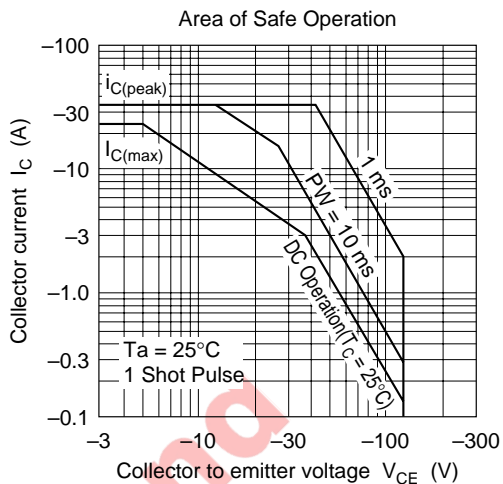
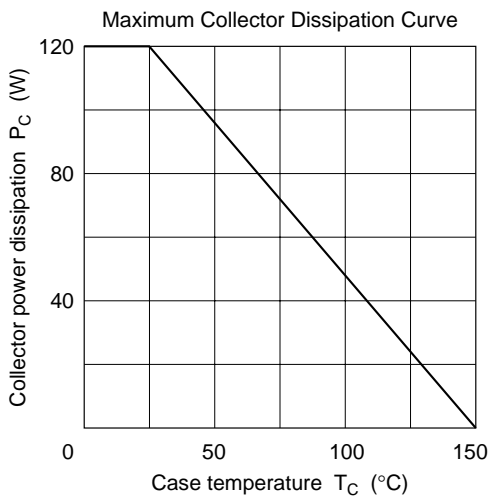
| Item | Symbol | Ratings | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | -120 | V |
| Collector to emitter voltage | V_{CEO} | -120 | V |
| Emitter to base voltage | V_{EBO} | -7 | V |
| Collector current | I_C | -25 | A |
| Collector peak current | $I_{C(peak)}$ | -35 | A |
| Collector power dissipation | P_C^{*1} | 120 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |
| C to E diode forward current | I_D^{*1} | 25 | A |

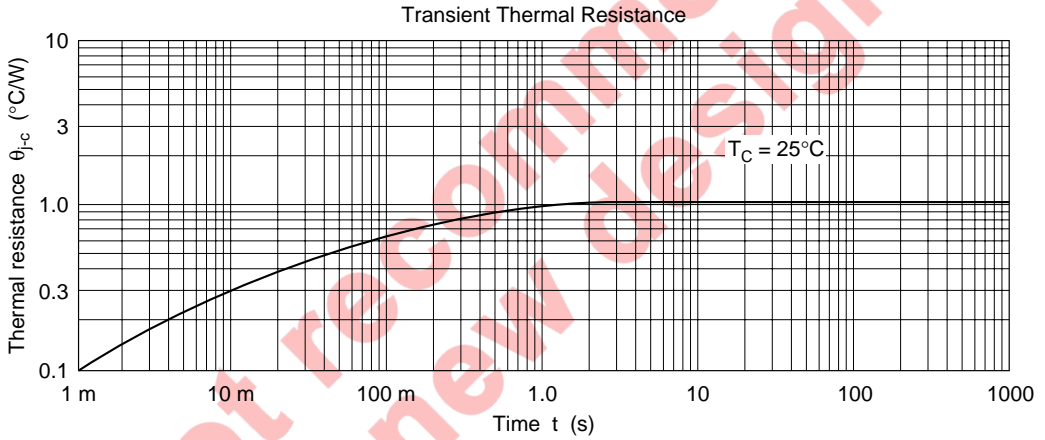
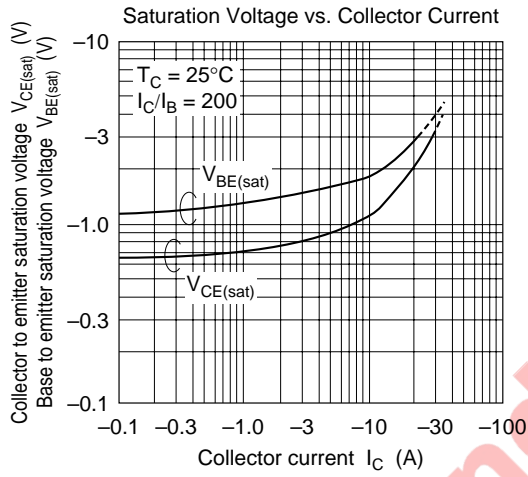
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|----------------|------|-----|-------|---------------|--|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | -120 | — | — | V | $I_C = -0.1\text{ mA}$, $I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -120 | — | — | V | $I_C = -25\text{ mA}$, $R_{BE} = \infty$ |
| Collector to emitter sustain voltage | $V_{CEO(sus)}$ | -120 | — | — | V | $I_C = -200\text{ mA}$, $R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -7 | — | — | V | $I_E = -50\text{ mA}$, $I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -10 | μA | $V_{CB} = -100\text{ V}$, $I_E = 0$ |
| | I_{CEO} | — | — | -10 | | $V_{CE} = -100\text{ V}$, $R_{BE} = \infty$ |
| DC current transfer ratio | h_{FE1} | 2000 | — | 20000 | | $V_{CE} = -4\text{ V}$, $I_C = -12\text{ A}^{*1}$ |
| | h_{FE2} | 500 | — | — | | $V_{CE} = -4\text{ V}$, $I_C = -25\text{ A}^{*1}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)1}$ | — | — | -2.0 | V | $I_C = -12\text{ A}$, $I_B = -24\text{ mA}^{*1}$ |
| | $V_{CE(sat)2}$ | — | — | -3.5 | | $I_C = -25\text{ A}$, $I_B = -250\text{ mA}^{*1}$ |
| Base to emitter saturation voltage | $V_{BE(sat)1}$ | — | — | -3.0 | V | $I_C = -12\text{ A}$, $I_B = -24\text{ mA}$ |
| | $V_{BE(sat)2}$ | — | — | -4.5 | | $I_C = -25\text{ A}$, $I_B = -250\text{ mA}^{*1}$ |

Note: 1. Pulse test.





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