

2SD1606

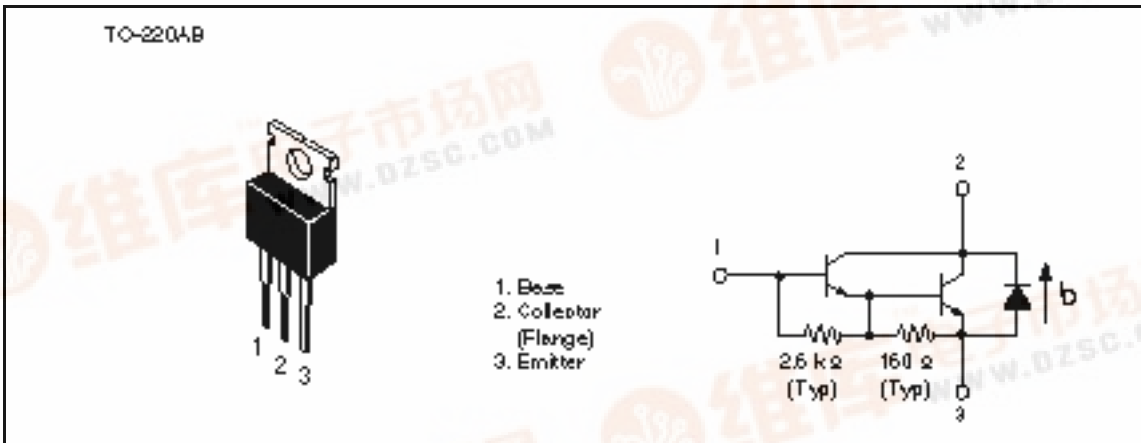
Silicon NPN Triple Diffused

HITACHI

Application

Low frequency power amplifier

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 | 6 | A |
| Collector peak current | $I_{C(peak)}$ | 12 | A |
| Collector power dissipation | P_C^{*1} | 40 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |
| C to E diode forward current | I_D^{*1} | 6 | A |

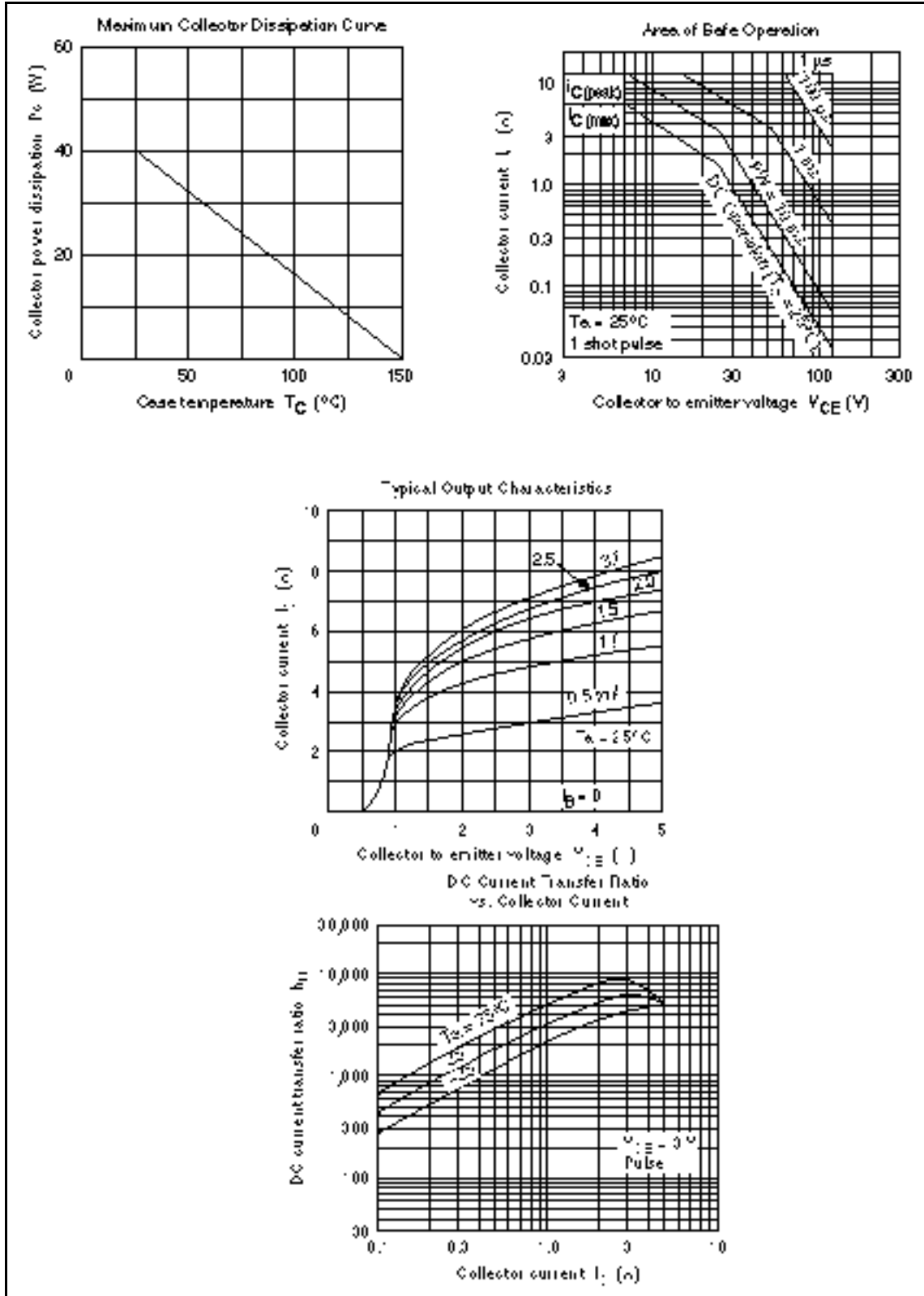
Note: 1. Value at $T_c = 25^\circ\text{C}$.

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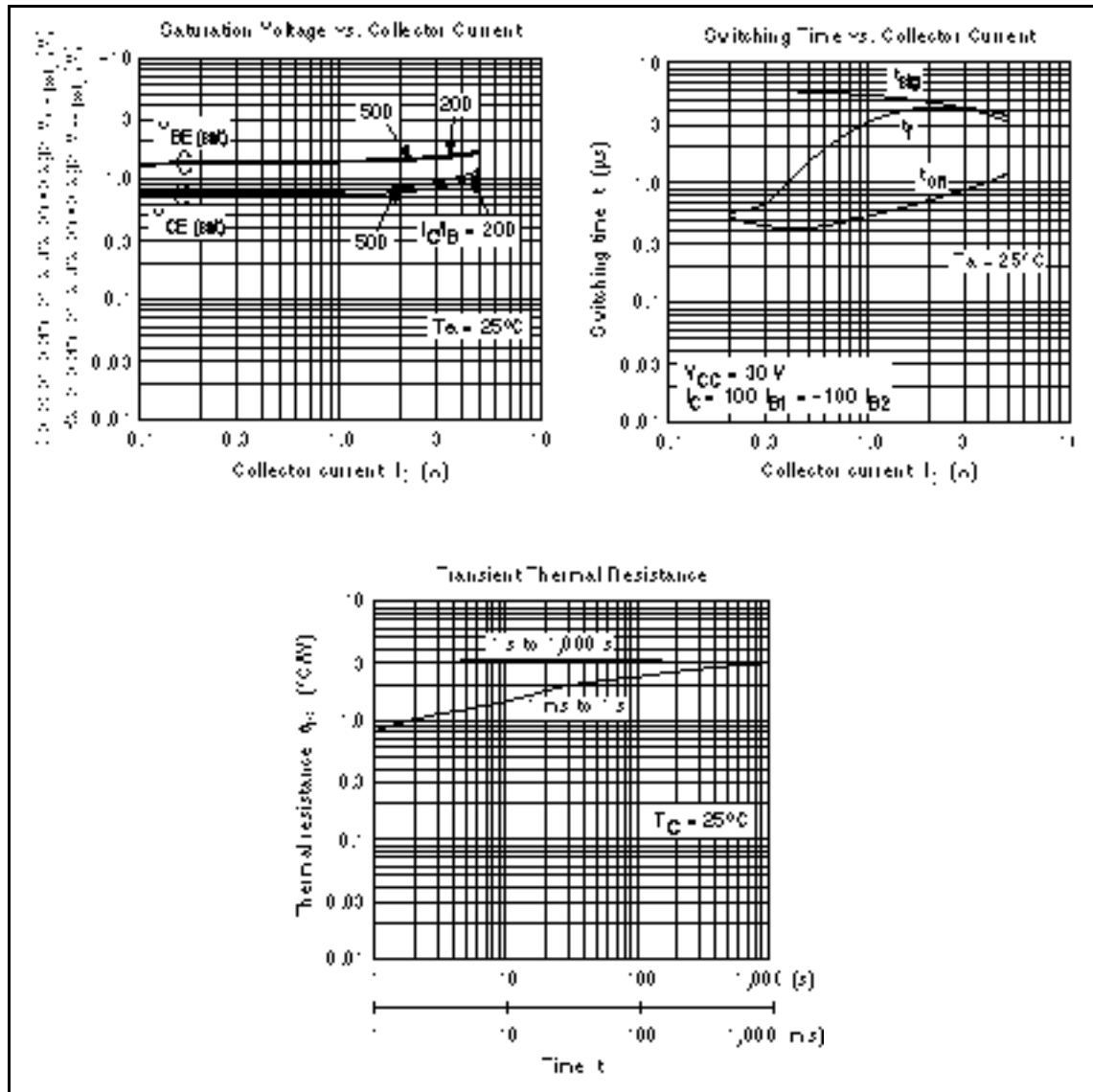
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|----------------|------|-----|-------|---------------|---|
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 120 | — | — | V | $I_C = 25 \text{ mA}$, $R_{BE} =$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 7 | — | — | V | $I_E = 50 \text{ mA}$, $I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 100 | μA | $V_{CB} = 120 \text{ V}$, $I_E = 0$ |
| | I_{CEO} | — | — | 10 | μA | $V_{CE} = 100 \text{ V}$, $R_{BE} =$ |
| DC current transfer ratio | h_{FE} | 1000 | — | 20000 | | $V_{CE} = 3 \text{ V}$, $I_C = 3 \text{ A}^{*1}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)1}$ | — | — | 1.5 | V | $I_C = 3 \text{ A}$, $I_B = 6 \text{ mA}^{*1}$ |
| | $V_{CE(sat)2}$ | — | — | 3.0 | V | $I_C = 6 \text{ A}$, $I_B = 60 \text{ mA}^{*1}$ |
| Base to emitter saturation voltage | $V_{BE(sat)1}$ | — | — | 2.0 | V | $I_C = 3 \text{ A}$, $I_B = 6 \text{ mA}^{*1}$ |
| | $V_{BE(sat)2}$ | — | — | 3.5 | V | $I_C = 6 \text{ A}$, $I_B = 60 \text{ mA}^{*1}$ |
| C to E diode forward voltage | V_D | — | — | 3.0 | V | $I_D = 6 \text{ A}^{*1}$ |
| Turn on time | t_{on} | — | 0.6 | — | μs | $I_C = 3 \text{ A}$, $I_{B1} = -I_{B2} = 6 \text{ mA}$ |
| Storage time | t_{stg} | — | 7.0 | — | μs | |
| Fall time | t_f | — | 2.0 | — | μs | |

Note: 1. Pulse test.



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