

2SD2128

Silicon NPN Triple Diffused
Low Frequency Power Amplifier

Absolute Maximum Ratings (Ta = 25°C)

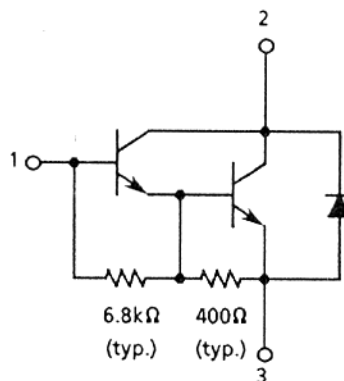
| Item | Symbol | Rating | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | 60 | V |
| Collector to emitter voltage | V_{CEO} | 60 | V |
| Emitter to base voltage | V_{EBO} | 7 | V |
| Collector current | I_C | 3 | A |
| Collector peak current | $i_{C(peak)}$ | 6 | A |
| Collector power dissipation | P_C | 2 | W |
| | P_C^{*1} | 25 | |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

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

TO-220FM



1. Base
2. Collector
3. Emitter



Electrical Characteristics (Ta = 25°C)

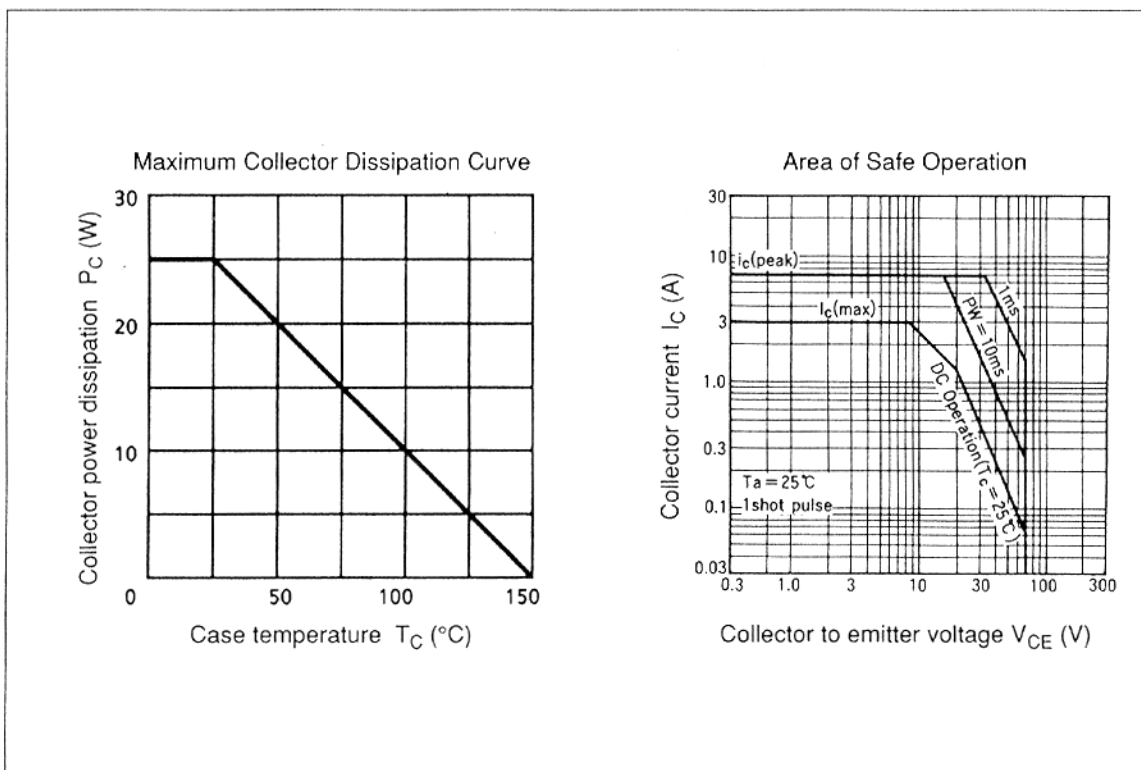
| Item | Symbol | Min | Typ | Max | Unit | Test condition |
|---|----------------|------|-----|-------|---------------|--|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 60 | — | — | V | $I_C = 0.1 \text{ mA}, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 60 | — | — | V | $I_C = 25 \text{ mA}, R_{BE} = \infty$ |
| 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 | $V_{CB} = 50 \text{ V}, I_E = 0$ |
| | I_{CEO} | — | — | 10 | | $V_{CE} = 50 \text{ V}, R_{BE} = \infty$ |
| DC current transfer ratio | h_{FE} | 1000 | — | 20000 | | $V_{CE} = 3 \text{ V}, I_C = 1.5 \text{ A}^{*1}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)1}$ | — | — | 1.2 | V | $I_C = 1.5 \text{ A}, I_B = 3 \text{ mA}^{*1}$ |
| | $V_{CE(sat)2}$ | — | — | 2.5 | | $I_C = 3 \text{ A}, I_B = 30 \text{ mA}^{*1}$ |

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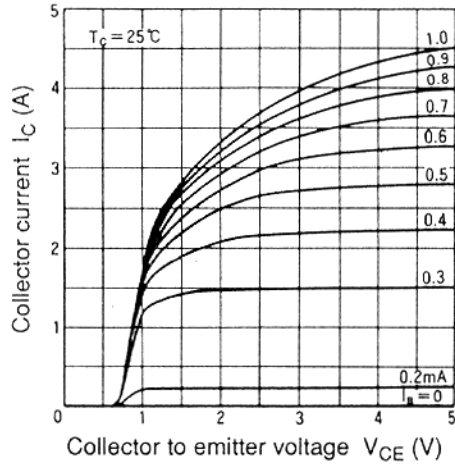
Electrical Characteristics (Ta = 25°C) (cont)

| Item | Symbol | Min | Typ | Max | Unit | Test condition |
|------------------------------------|----------------|-----|-----|-----|------|--|
| Base to emitter saturation voltage | $V_{BE(sat)1}$ | — | — | 2.0 | V | $I_C = 1.5 \text{ A}, I_B = 3 \text{ mA}^{\ast 1}$ |
| | $V_{BE(sat)2}$ | — | — | 3.5 | | $I_C = 3 \text{ A}, I_B = 30 \text{ mA}^{\ast 1}$ |

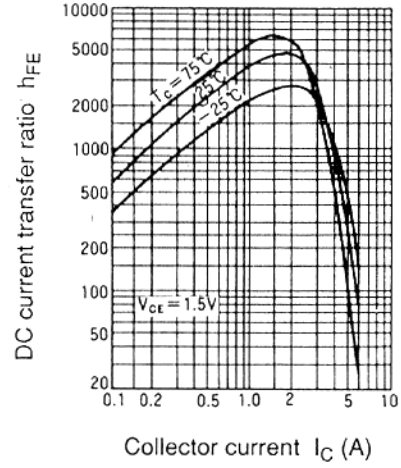
Note: 1. Pulse Test.



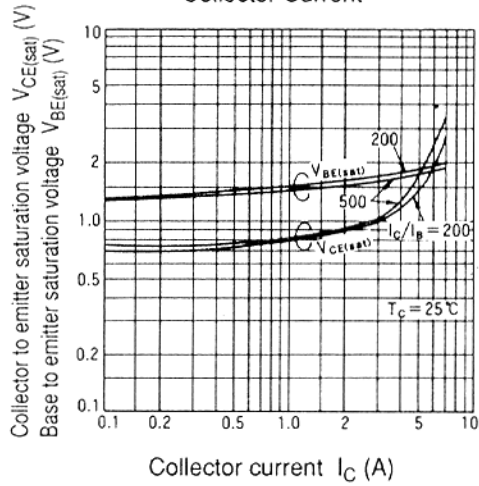
Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current



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