

2SD2101

Silicon NPN Triple Diffused

HITACHI

ADE-208-920 (Z)

1st. Edition

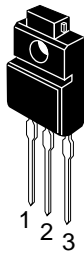
Sep. 2000

Application

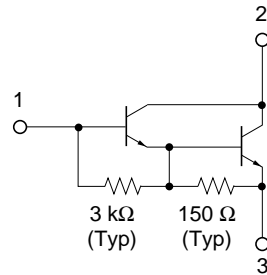
Low frequency power amplifier

Outline

TO-220FM



1. Base
2. Collector
3. Emitter



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

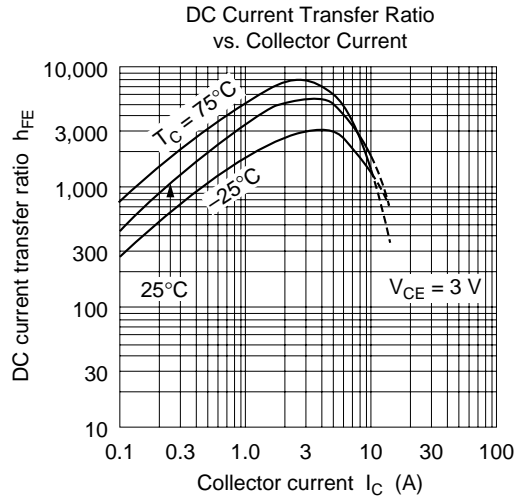
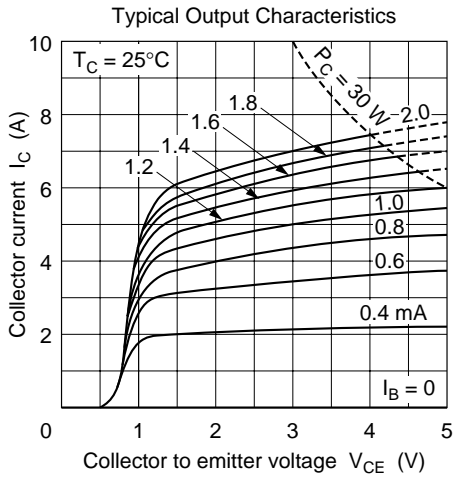
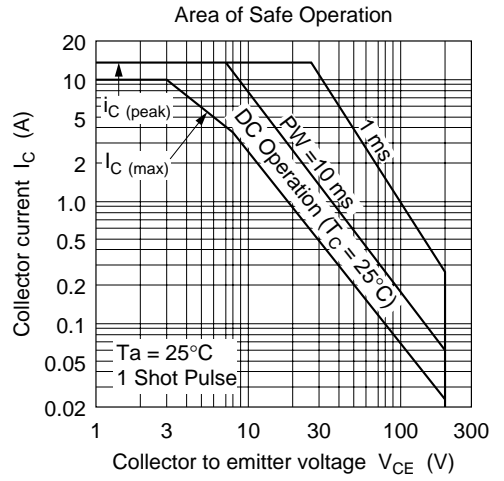
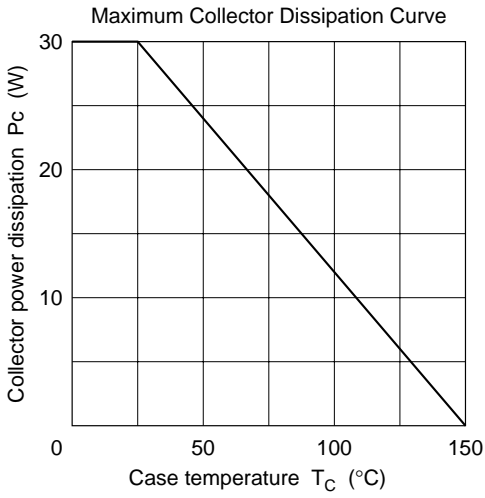
| Item | Symbol | Rating | Unit |
|------------------------------|----------------------|-------------|------------------|
| Collector to base voltage | V_{CBO} | 200 | V |
| Collector to emitter voltage | V_{CEO} | 200 | V |
| Emitter to base voltage | V_{EBO} | 7 | V |
| Collector current | I_{C} | 10 | A |
| Collector peak current | $I_{\text{C(peak)}}$ | 15 | A |
| Collector power dissipation | P_{C} | 2 | W |
| | P_{C}^{*1} | 30 | |
| Junction temperature | T_{j} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

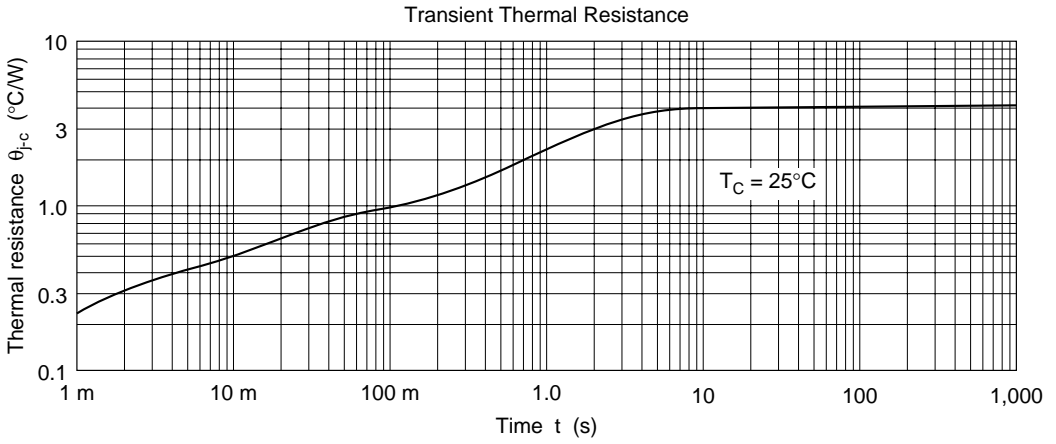
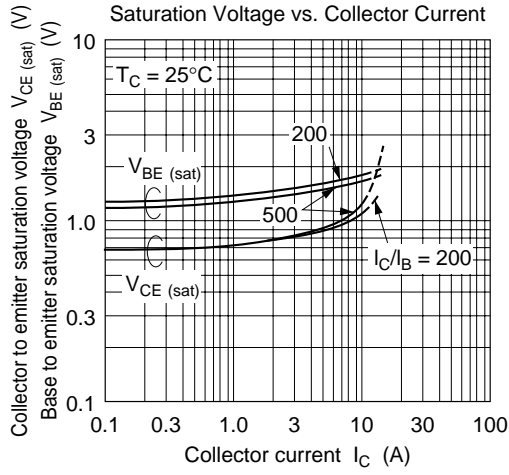
Note: 1. Value at $T_{\text{C}} = 25^\circ\text{C}$.

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

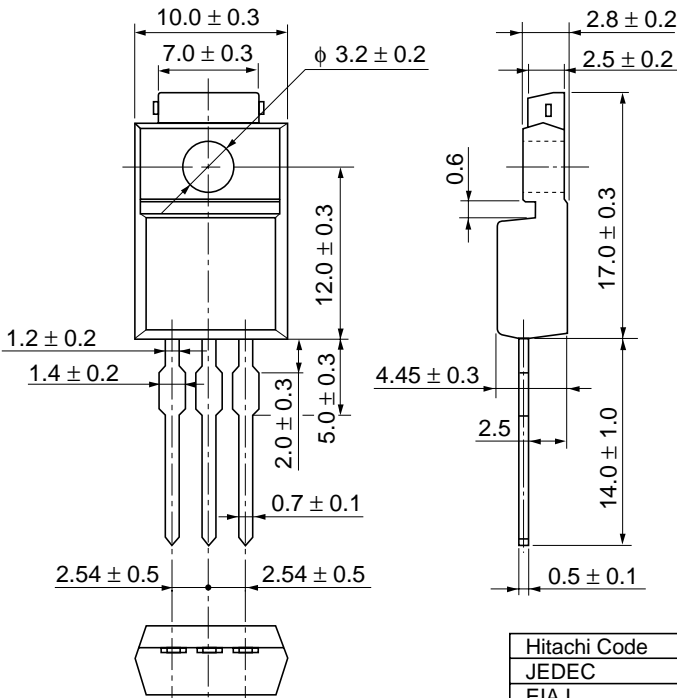
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|-----------------------------|------|-----|-----|---------------|--|
| Collector to base breakdown voltage | $V_{(\text{BR})\text{CBO}}$ | 200 | — | — | V | $I_{\text{C}} = 0.1 \text{ mA}$, $I_{\text{E}} = 0$ |
| Collector to emitter breakdown voltage | $V_{(\text{BR})\text{CEO}}$ | 200 | — | — | V | $I_{\text{C}} = 25 \text{ mA}$, $R_{\text{BE}} = \infty$ |
| Collector to emitter sustain voltage | $V_{\text{CEO(SUS)}}$ | 170 | — | — | V | $I_{\text{C}} = 5 \text{ A}$, $L = 5 \text{ mH}$ |
| Emitter to base breakdown voltage | $V_{(\text{BR})\text{EBO}}$ | 7 | — | — | V | $I_{\text{E}} = 50 \text{ mA}$, $I_{\text{C}} = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 10 | μA | $V_{\text{CB}} = 180 \text{ V}$, $I_{\text{E}} = 0$ |
| | I_{CEO} | — | — | 50 | | $V_{\text{CE}} = 180 \text{ V}$, $R_{\text{BE}} = \infty$ |
| DC current transfer ratio | h_{FE} | 1500 | — | — | | $V_{\text{CE}} = 3 \text{ V}$, $I_{\text{C}} = 5 \text{ A}^{*1}$ |
| Collector to emitter saturation voltage | $V_{\text{CE(sat)1}}$ | — | — | 1.5 | V | $I_{\text{C}} = 5 \text{ A}$, $I_{\text{B}} = 10 \text{ mA}^{*1}$ |
| | $V_{\text{CE(sat)2}}$ | — | — | 3.0 | | $I_{\text{C}} = 10 \text{ A}$, $I_{\text{B}} = 100 \text{ mA}^{*1}$ |
| Base to emitter saturation voltage | $V_{\text{BE(sat)1}}$ | — | — | 2.0 | V | $I_{\text{C}} = 5 \text{ A}$, $I_{\text{B}} = 10 \text{ mA}^{*1}$ |
| | $V_{\text{BE(sat)2}}$ | — | — | 3.5 | | $I_{\text{C}} = 10 \text{ A}$, $I_{\text{B}} = 100 \text{ mA}^{*1}$ |

Note: 1. Pulse test.

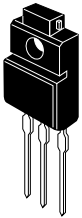




Package Dimensions



Unit: mm



| | |
|------------------------|----------|
| Hitachi Code | TO-220FM |
| JEDEC | — |
| EIAJ | Conforms |
| Mass (reference value) | 1.8 g |

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