
2SD2342

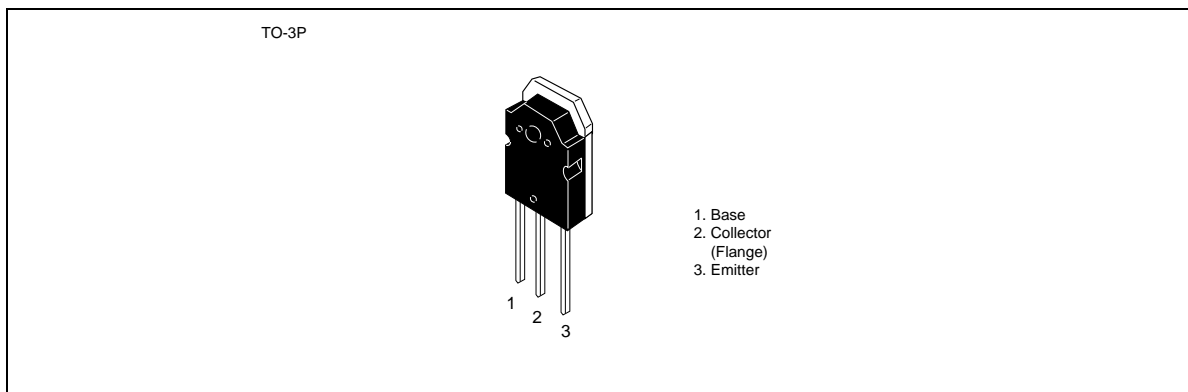
Silicon NPN Triple Diffused

HITACHI

Application

Low frequency power amplifier

Outline



2SD2342

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | 150 | V |
| Collector to emitter voltage | V_{CEO} | 80 | V |
| Emitter to base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 6 | A |
| Collector peak current | $I_{C(peak)}$ | 10 | A |
| Collector power dissipation | P_C^{*1} | 50 | W |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | -50 to +150 | °C |

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

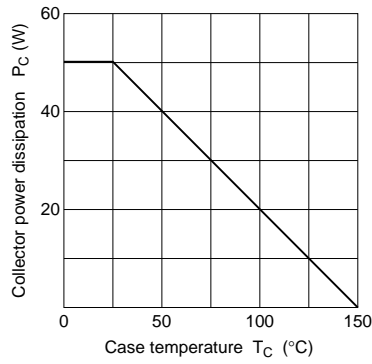
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|----------------|-----|-----|-----|---------------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 150 | — | — | V | $I_C = 5\text{ mA}, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 80 | — | — | V | $I_C = 50\text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 6 | — | — | V | $I_E = 5\text{ mA}, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 10 | μA | $V_{CB} = 120\text{ V}, I_E = 0$ |
| DC current transfer ratio | h_{FE1}^{*1} | 60 | — | 200 | | $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$ |
| | h_{FE2} | 22 | — | — | | $V_{CE} = 5\text{ V}, I_C = 5\text{ A}$ |
| Base to emitter voltage | V_{BE} | — | — | 1.0 | V | $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 1.5 | V | $I_C = 5\text{ A}, I_B = 1\text{ A}$ |

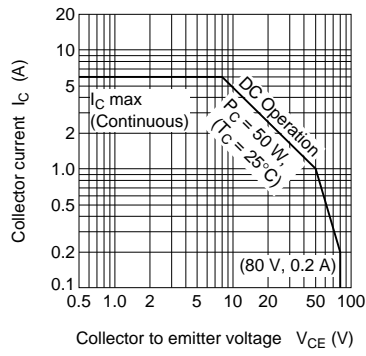
Note: 1. The 2SD2342 is grouped by h_{FE1} as follows.

| B | C |
|-----------|------------|
| 60 to 120 | 100 to 200 |

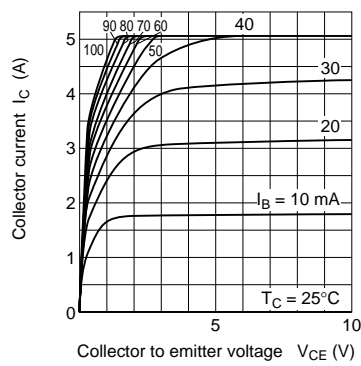
Maximum Collector Dissipation Curve



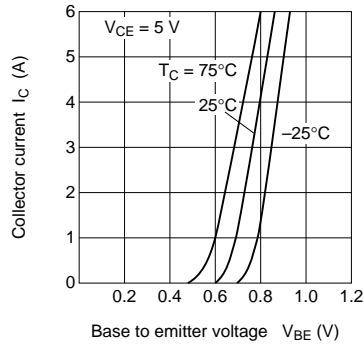
Area of Safe Operation



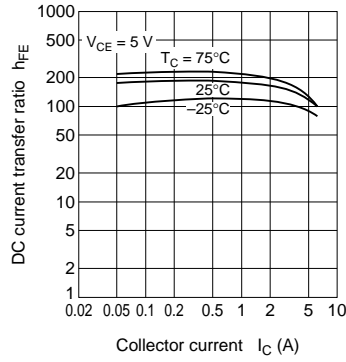
Typical Output Characteristics



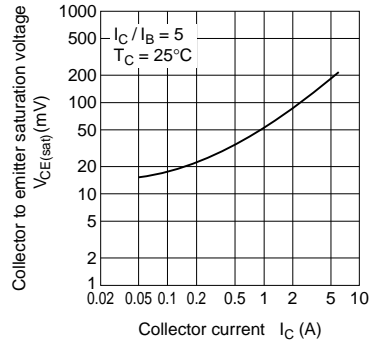
Typical Transfer Characteristics



DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



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