
2SC4308

Silicon NPN Epitaxial Planar

HITACHI

Application

VHF Wide band amplifier

Outline

TO-92 (2)



1. Base
2. Emitter
3. Collector

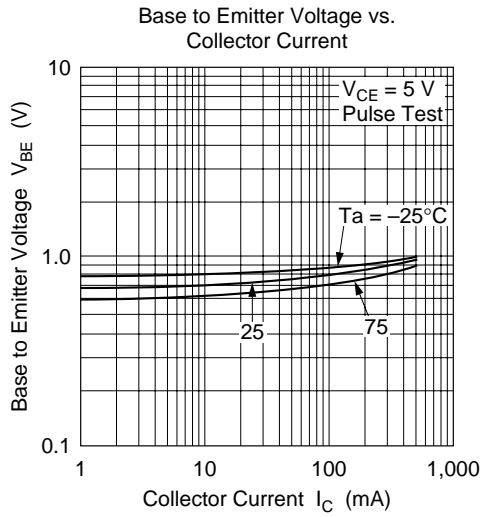
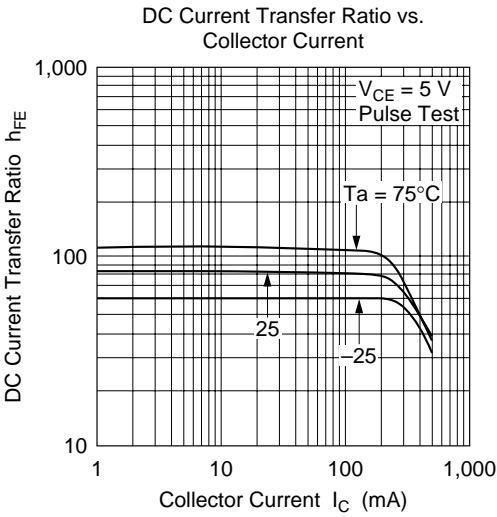
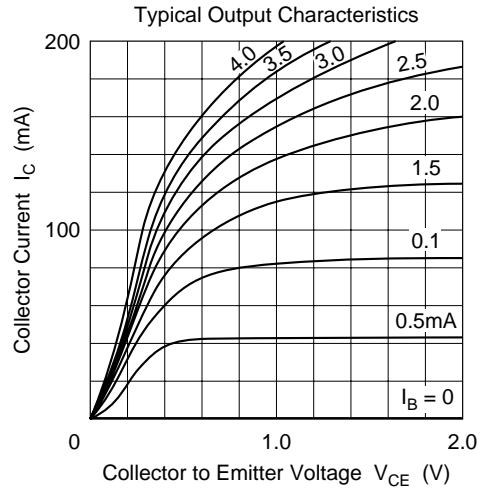
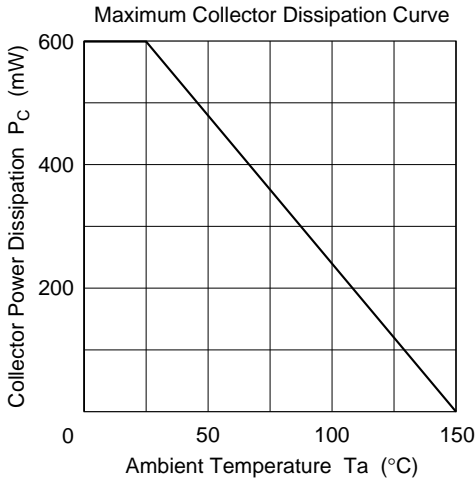
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Absolute Maximum Ratings (Ta = 25°C)

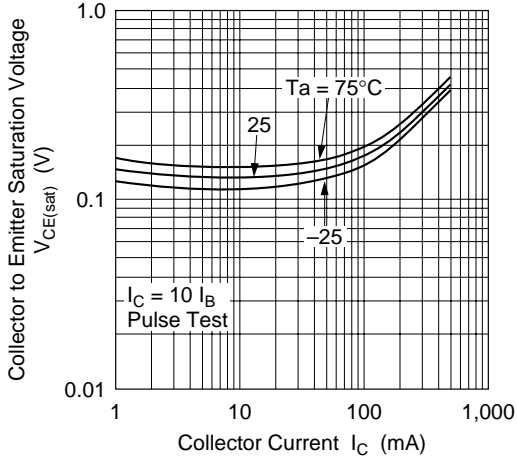
| Item | Symbol | Rated | Unit |
|------------------------------|----------------------|-------------|------|
| Collector to base voltage | V_{CBO} | 30 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | V_{EBO} | 3 | V |
| Collector current | I_C | 300 | mA |
| Collector peak current | $i_{C(\text{peak})}$ | 500 | mA |
| Collector power dissipation | P_C | 600 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Electrical Characteristics (Ta = 25°C)

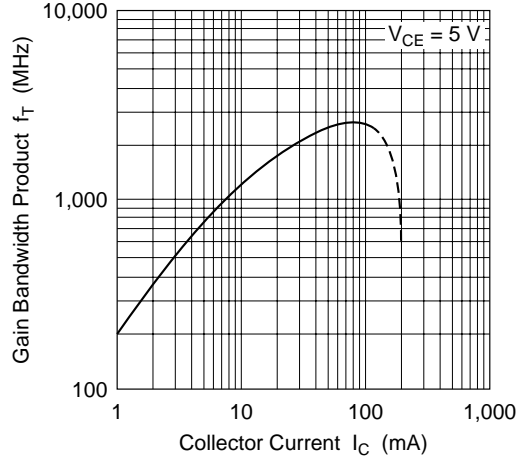
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|--|---------------|-----|-----|-----|---------------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 30 | — | — | V | $I_C = 100 \mu\text{A}$, $I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 20 | — | — | V | $I_C = 1 \text{ mA}$, $R_{BE} = \infty$ |
| Collector cutoff current | I_{CBO} | — | — | 1 | μA | $V_{CB} = 25 \text{ V}$, $I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | 10 | μA | $V_{EB} = 3 \text{ V}$, $I_E = 0$ |
| DC current transfer ratio | h_{FE} | 50 | — | 200 | | $V_{CE} = 5 \text{ V}$, $I_C = 50 \text{ mA}$ |
| Gain bandwidth product | f_T | 1.5 | 2.5 | — | GHz | $V_{CE} = 5 \text{ V}$, $I_C = 50 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 4.0 | — | pF | $V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$ |



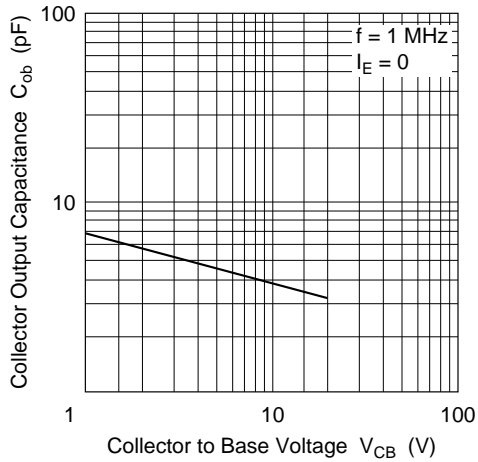
Collector to Emitter Saturation Voltage vs. Collector Current



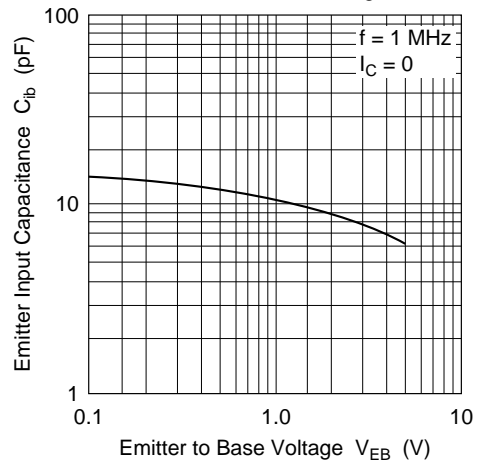
Gain Bandwidth Product vs. Collector Current

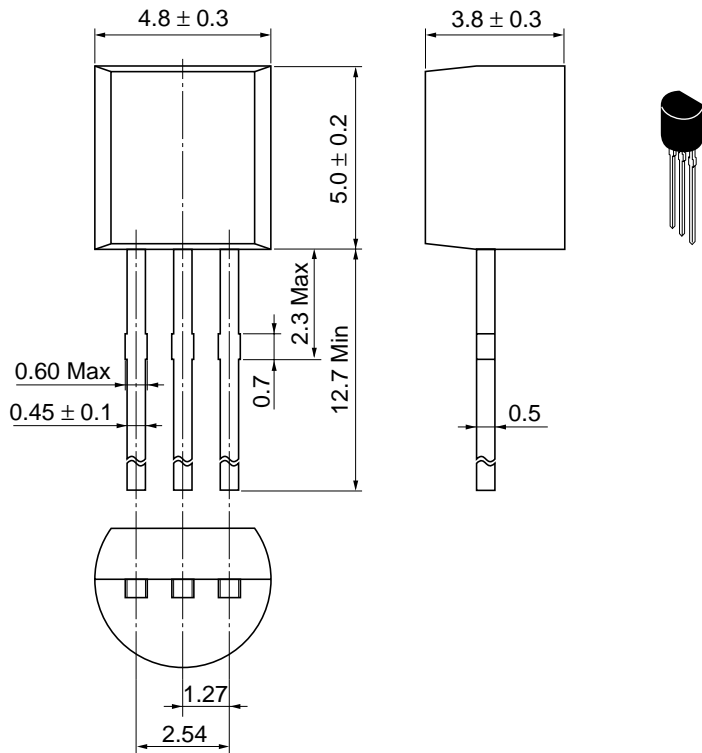


Collector Output Capacitance vs. Collector Current



Emitter Input Capacitance vs. Emitter to Base Voltage





| | |
|--------------------------|-----------|
| Hitachi Code | TO-92 (2) |
| JEDEC | Conforms |
| EIAJ | Conforms |
| Weight (reference value) | 0.25 g |

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