
2SC3512

Silicon NPN Epitaxial

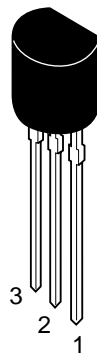
HITACHI

Application

UHF / VHF wide band amplifier

Outline

TO-92 (2)



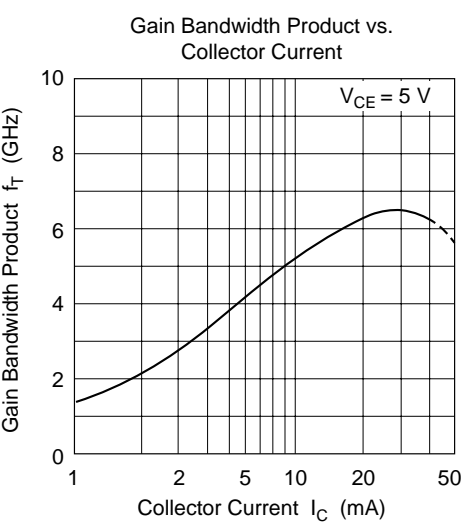
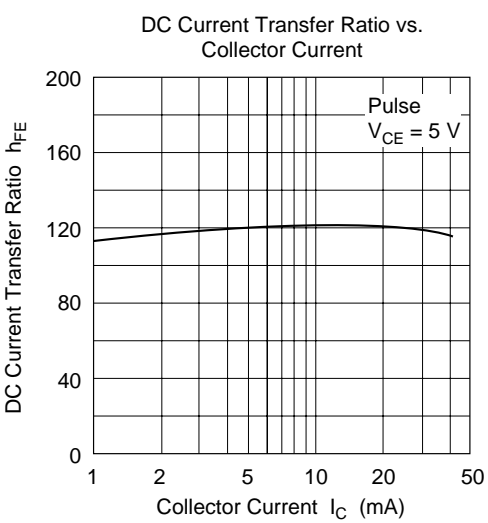
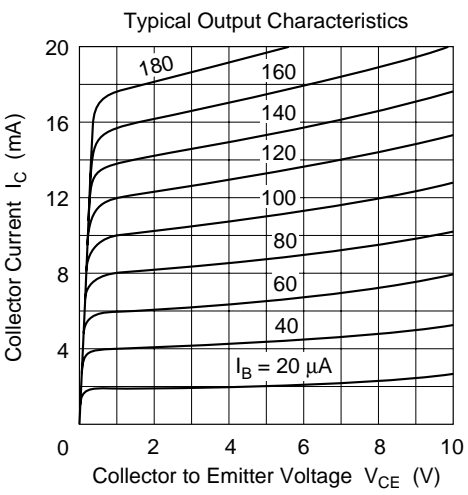
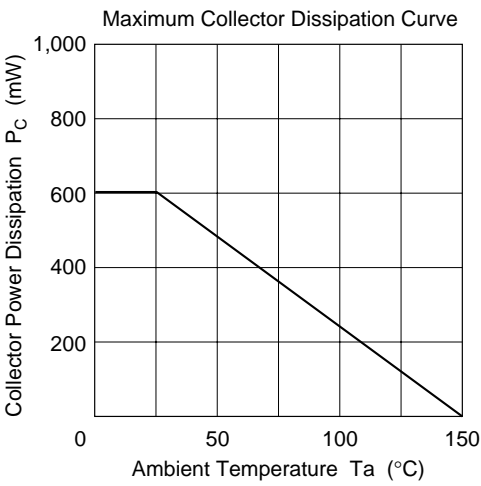
- 1. Base
- 2. Emitter
- 3. Collector

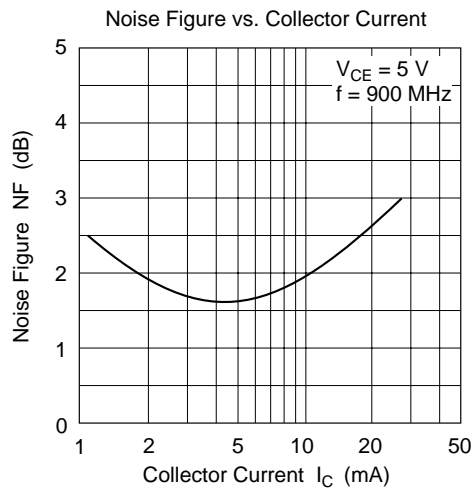
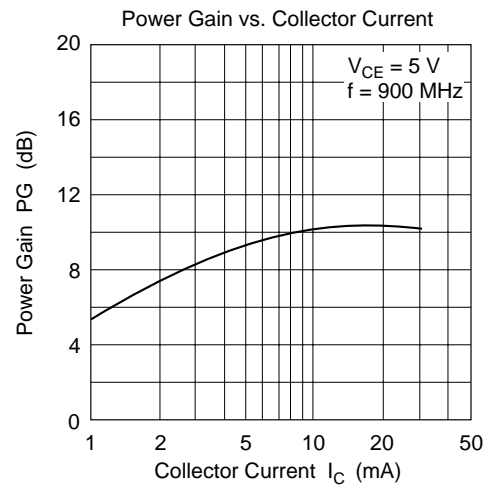
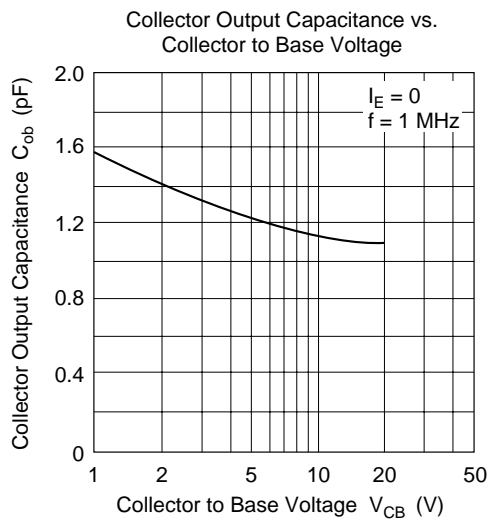
Absolute Maximum Ratings (Ta = 25°C)

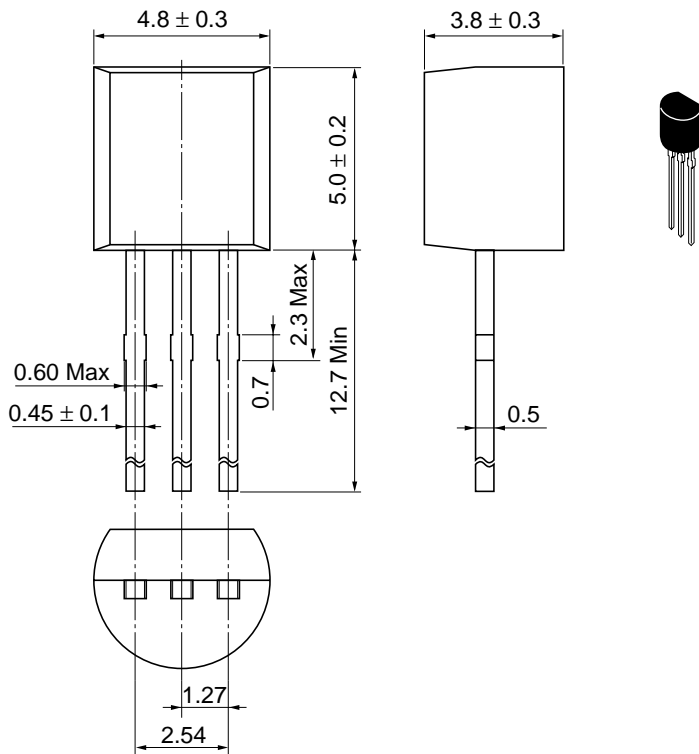
| Item | Symbol | Ratings | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage | V_{CBO} | 15 | V |
| Collector to emitter voltage | V_{CEO} | 11 | V |
| Emitter to base voltage | V_{EBO} | 2 | V |
| Collector current | I_C | 50 | mA |
| Collector power 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 | $V_{(BR)CBO}$ | 15 | — | — | V | $I_C = 10\text{ }\mu\text{A}$, $I_E = 0$ |
| Collector to cutoff current | I_{CEO} | — | — | 1 | μA | $V_{CE} = 10\text{ V}$, $R_{BE} = \infty$ |
| Emitter cutoff current | I_{EBO} | — | — | 1 | μA | $V_{EB} = 1\text{ V}$, $I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 1 | μA | $V_{CB} = 12\text{ V}$, $I_E = 0$ |
| DC current transfer ratio | h_{FE} | 50 | 120 | 250 | | $V_{CE} = 5\text{ V}$, $I_C = 20\text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 1.2 | 1.6 | pF | $V_{CB} = 5\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$ |
| Gain bandwidth product | f_T | — | 6.0 | — | GHz | $V_{CE} = 5\text{ V}$, $I_C = 20\text{ mA}$ |
| Power gain | PG | — | 10.5 | — | dB | $V_{CE} = 5\text{ V}$, $I_C = 20\text{ mA}$, $f = 900\text{ MHz}$ |
| Noise figure | NF | — | 1.6 | — | dB | $V_{CE} = 5\text{ V}$, $I_C = 5\text{ mA}$, $f = 900\text{ MHz}$ |







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

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