# 2SC3470

Silicon NPN Epitaxial

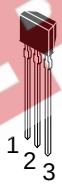
HITACHI

## Application

Low frequency amplifier

## Outline

SPAK




1. Emitter
2. Collector
3. Base



Hitachi semiconductor

## Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---|---|---|---|
| Collector to base voltage | $V_{CBO}$ | 55 | V |
| Collector to emitter voltage | $V_{CEO}$ | 50 | V |
| Emitter to base voltage | $V_{EBO}$ | 5 | V |
| Collector current | $I_C$ | 100 | mA |
| Collector power dissipation | $P_C$ | 300 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | –55 to +150 | °C |

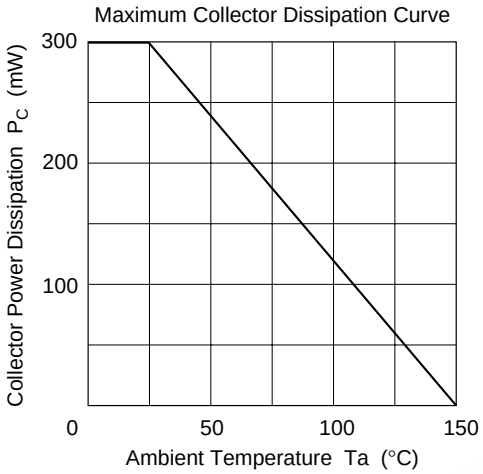
## Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---|---|---|---|---|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 55 | — | — | V | $I_C$ = 10 µA, $I_E$ = 0 |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 50 | — | — | V | $I_C$ = 1 mA, $R_{BE}$ = ∞ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 5 | — | — | V | $I_E$ = 10 µA, $I_C$ = 0 |
| Collector cutoff current | $I_{CBO}$ | — | — | 0.5 | µA | $V_{CB}$ = 18 V, $I_E$ = 0 |
| Emitter cutoff current | $I_{EBO}$ | — | — | 0.5 | µA | $V_{EB}$ = 2 V, $I_C$ = 0 |
| DC current transfer ratio | $h_{FE}$*[1] | 250 | — | 1200 | | $V_{CE}$ = 12 V, $I_C$ = 2 mA |
| Base to emitter voltage | $V_{BE}$ | — | — | 0.75 | V | $V_{CE}$ = 12 V, $I_C$ = 2 mA |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 0.2 | V | $I_C$ = 10 mA, $I_B$ = 1 mA |
| Gain bandwidth product | $f_T$ | — | 230 | — | MHz | $V_{CE}$ = 12 V, $I_C$ = 2 mA |
| Collector output capacitance | Cob | — | 1.8 | 3.5 | pF | $V_{CB}$ = 10 V, $I_E$ = 0, f = 1 MHz |

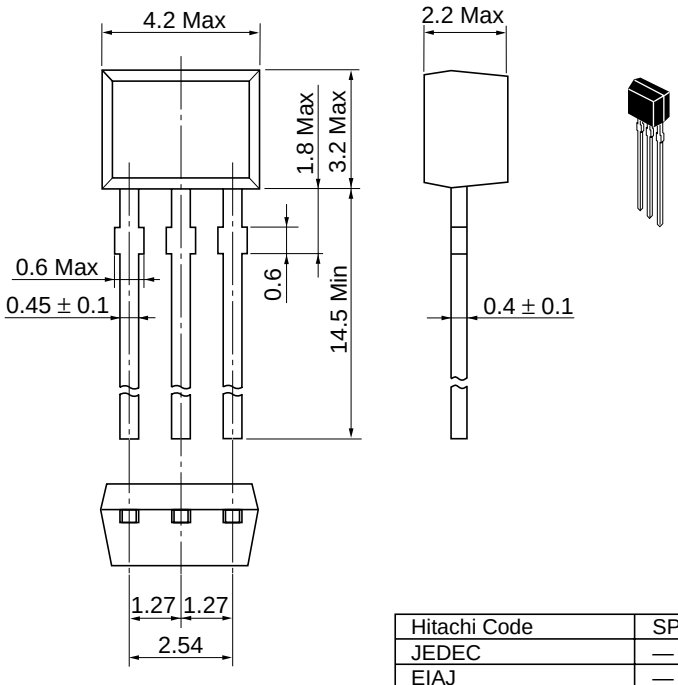
Note: 1. The 2SC3470 is grouped by $h_{FE}$ as follows.

| D | E | F |
|---|---|---|
| 250 to 500 | 400 to 800 | 600 to 1200 |

See characteristic curves of 2SC1345.


Maximum Collector Dissipation Curve
Collector Power Dissipation $P_C$ (mW)
300
200
100
0
50
100
150
Ambient Temperature Ta (°C)

Unit: mm




| | |
|---|---|
| Hitachi Code | SPAK |
| JEDEC | — |
| EIAJ | — |
| Weight (reference value) | 0.10 g |

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