# Power Transistor (−60V, −3A)

## 2SB1370

### ●Features

1) Low $V_{CE(sat)}$. (Typ.−0.3V at $I_C/I_B$=−2/−0.2A)
2) Excellent DC current gain characteristics.
3) Pc = 2W(Ta=25℃)／30W(Tc=25℃)
4) Wide SOA (safe operating area).

### ●Packaging specifications and $h_{FE}$

| Type | 2SB1370 |
|---|---|
| Package | TO-220FN |
| $h_{FE}$ | EF |
| Code | — |
| Basic ordering unit (pieces) | 500 |

### ●Absolute maximum ratings (Ta=25℃)

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | −60 | V |
| Collector-emitter voltage | $V_{CEO}$ | −60 | V |
| Emitter-base voltage | $V_{EBO}$ | −5 | V |
| Collector current | $I_C$ | −3 | A(DC) |
| | $I_{C}$ | −6 | A(Pulse) * |
| Collector power dissipation | $P_C$ | 2 | W |
| | | 30 | W(Tc=25℃) |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature | Tstg | −55~150 | ℃ |

* Sigle pulse Pw=100ms

### ●Electrical characteristics (Ta=25℃)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $BV_{CBO}$ | −60 | — | — | V | $I_C$=−50 μA |
| Collector-emitter breakdown voltage | $BV_{CEO}$ | −60 | — | — | V | $I_C$=−1mA |
| Emitter-base breakdown voltage | $BV_{EBO}$ | −5 | — | — | V | $I_E$=−50 μA |
| Collector cutoff current | $I_{CBO}$ | — | — | −10 | μA | $V_{CB}$=−60V |
| Emitter cutoff current | $I_{EBO}$ | — | — | −10 | μA | $V_{EB}$=−4V |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | — | −1.5 | | $I_C/I_B$=−2A/−0.2A * |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | — | — | −1.5 | | $I_C/I_B$=−2A/−0.2A * |
| DC current transfer ratio | $h_{FE}$ | 100 | — | 320 | — | $V_{CE}/I_C$=−5V/−0.5A |
| Transition frequency | $f_T$ | — | 15 | — | | $V_{CE}$=−5V, $I_E$=0.5A, f=5MHz * |
| Output capacitance | Cob | — | 80 | — | pF | $V_{CB}$=−10V, $I_E$=0A, f=1MHz |

* Measured using pulse current.