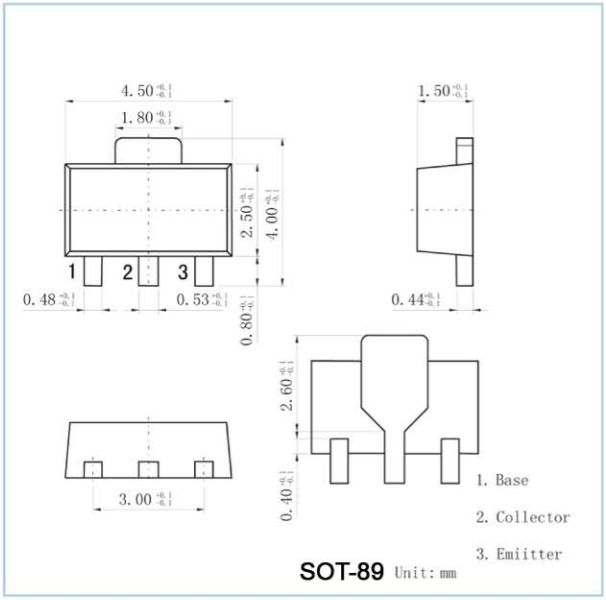
# BCX55

## ■ Features

- High current (max. 1 A).
- Low voltage (max. 45 V).




## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 45 | V |
| Collector-emitter voltage | $V_{CEO}$ | 45 | V |
| Emitter-base voltage | $V_{EBO}$ | 5 | V |
| Collector current (DC) | $I_C$ | 1 | A |
| Peak collector current | $I_{CM}$ | 1.5 | A |
| Peak base current | $I_{BM}$ | 0.2 | A |
| Power dissipation Ta ≤25 ℃ * | $P_D$ | 1.3 | W |
| Operating ambient temperature | $R_{amb}$ | -65 to +150 | ℃ |
| Thermal resistance from junction to ambient * | $R_{th(j-a)}$ | 94 | K/W |
| Thermal resistance from junction to solder point | $R_{th(j-s)}$ | 14 | K/W |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature | $T_{stg}$ | -65 to +150 | ℃ |

* Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 $cm^2$.

■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector cutoff current | $I_{CBO}$ | $V_{CB}$ = 30 V, $I_E$ = 0 | | | 100 | nA |
| | | $V_{CB}$ = 30 V, $I_E$ = 0; Tj = 125℃ | | | 10 | ìA |
| Emitter cutoff current | $I_{EBO}$ | $V_{EB}$ = 5 V, $I_C$ = 0 | | | 100 | nA |
| DC current gain | $h_{FE}$ | $I_C$ = 5 mA; $V_{CE}$ = 2 V | 40 | | | |
| | | $I_C$ = 150 mA; $V_{CE}$ = 2 V | 63 | | 250 | |
| | | $I_C$ = 500 mA; $V_{CE}$ = 2 V | 25 | | | |
| DC current gain BCX55-10 | $h_{FE}$ | $I_C$ = 150 mA; $V_{CE}$ = 2 V; | 63 | | 160 | |
| BCX55-16 | | | 100 | | 250 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$ = 500 mA; $I_B$ = 50 mA | | | 0.5 | V |
| Base to emitter voltage | $V_{BE}$ | $I_C$ = 500 mA; $V_{CE}$ = 2 V | | | 1 | V |
| DC current gain ratio of the complementary pairs | $\frac{h_{FE}}{h_{FE}}$ | $\lvert I_C \rvert$ = 150 mA; $\lvert V_{CE} \rvert$ = 2V | | 1.3 | 1.6 | |
| Transition frequency | $f_T$ | $I_C$ = 10 mA; $V_{CE}$ = 5 V; f = 100 MHz | | 130 | | MHz |

■ $h_{FE}$ Classification

| TYPE | BCX55 | BCX55 -10 | BCX55-16 |
|---|---|---|---|
| Marking | BE | BG | BM |