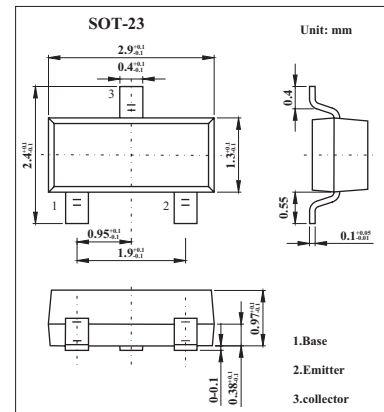


NPN General Purpose Transistors

BCF32

■ Features

- Low current (max. 100 mA).
- Low voltage (max. 32 V).

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---|---------------|-------------|------------------|
| Collector-base voltage | V_{CB0} | 32 | V |
| Collector-emitter voltage | V_{CE0} | 32 | V |
| Emitter-base voltage | V_{EB0} | 5 | V |
| Collector current | I_C | 100 | mA |
| Peak collector current | I_{CM} | 200 | mA |
| Peak base current | I_{BM} | 100 | mA |
| Total power dissipation * | P_{tot} | 250 | mW |
| Storage temperature | T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Operating ambient temperature | R_{amb} | -65 to +150 | $^\circ\text{C}$ |
| Thermal resistance from junction to ambient * | $R_{th\ j-a}$ | 500 | K/W |

* Transistor mounted on an FR4 printed-circuit board.

BCF32

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector cutoff current | I_{CBO} | $I_E = 0; V_{CB} = 32\text{ V}$ | | | 100 | nA |
| | I_{CBO} | $I_E = 0; V_{CB} = 32\text{ V}; T_j = 100^\circ\text{C}$ | | | 10 | μA |
| Emitter cutoff current | I_{EBO} | $I_C = 0; V_{EB} = 5\text{ V}$ | | | 100 | nA |
| DC current gain | h_{FE} | $I_C = 10\ \mu\text{A}; V_{CE} = 5\text{ V}$ | | 150 | | |
| | | $I_C = 2\text{ mA}; V_{CE} = 5\text{ V}$ | 200 | | 450 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$ | | 120 | 250 | mV |
| | | $I_C = 50\text{ mA}; I_B = 2.5\text{ mA}$ | | 210 | | mV |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$ | | 750 | | mV |
| | | $I_C = 50\text{ mA}; I_B = 2.5\text{ mA}$ | | 850 | | mV |
| Base to emitter voltage | V_{BE} | $I_C = 2\text{ mA}; V_{CE} = 5\text{ V}$ | 550 | | 700 | mV |
| Collector capacitance | C_C | $I_E = i_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$ | | 2.5 | | pF |
| Transition frequency | f_T | $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$ | 100 | | | MHz |
| Noise figure | NF | $I_C = 200\ \mu\text{A}; V_{CE} = 5\text{ V}; R_S = 2\text{ k}\Omega; f = 1\text{ kHz}; B = 200\text{ Hz}$ | | 1.2 | 4 | dB |

■ Marking

| | |
|---------|----|
| Marking | D7 |
|---------|----|