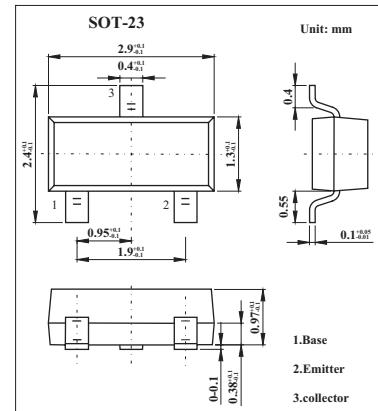


NPN General Purpose Transistors

BCW71,BCW72

■ Features

- Low current (max. 100 mA).
- Low voltage (max. 45 V).
- Low noise.



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|---|---------------------|-------------|------|
| Collector-base voltage | V _{CBO} | 50 | V |
| Collector-emitter voltage | V _{C EO} | 45 | V |
| Emitter-base voltage | V _{EBO} | 5 | V |
| Collector current | I _C | 100 | mA |
| Peak collector current | I _{CM} | 200 | mA |
| Peak base current | I _{BM} | 200 | mA |
| Total power dissipation | P _{tot} | 250 | mW |
| Storage temperature | T _{stg} | -65 to +150 | °C |
| Junction temperature | T _j | 150 | °C |
| Operating ambient temperature | T _{amb} | -65 to +150 | °C |
| Thermal resistance from junction to ambient * | R _{th j-a} | 500 | K/W |

* Transistor mounted on an FR4 printed-circuit board.

BCW71,BCW72■ 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} = 20 V | | | 100 | nA |
| | I _{CBO} | I _E = 0; V _{CB} = 20 V; T _j = 100 °C | | | 10 | μA |
| Emitter cutoff current | I _{EBO} | I _C = 0; V _{EB} = 5 V | | | 100 | μA |
| DC current gain | h _{FE} | I _C = 10 μA; V _{CE} = 5 V | 90 | | | |
| | | | 150 | | | |
| DC current gain | h _{FE} | I _C = 2 mA; V _{CE} = 5 V | 110 | | 120 | |
| | | | 200 | | 450 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C = 10 mA; I _B = 0.5 mA | | 120 | 250 | mV |
| | | I _C = 50 mA; I _B = 2.5 mA | | 210 | | mV |
| Base to emitter saturation voltage | V _{BE(sat)} | I _C = 10 mA; I _B = 0.5 mA | | 750 | | mV |
| | | I _C = 50 mA; I _B = 2.5 mA | | 850 | | mV |
| Base to emitter voltage | V _{BE} | I _C = 2 mA; V _{CE} = 5 V | 550 | | 700 | mV |
| Collector capacitance | C _C | I _E = I _E = 0; V _{CB} = 10 V; f = 1 MHz | | 2.5 | | pF |
| Transition frequency | f _T | I _C = 10 mA; V _{CE} = 5 V; f = 100 MHz | 100 | | | MHz |
| Noise figure | NF | I _C = 200 μA; V _{CE} = 5 V; R _S = 2 kΩ; f = 1 kHz; B = 200 Hz | | | 10 | dB |

■ h_{FE} Classification

| TYPE | BCW71 | BCW72 |
|---------|-------|-------|
| Marking | K1 | K2 |