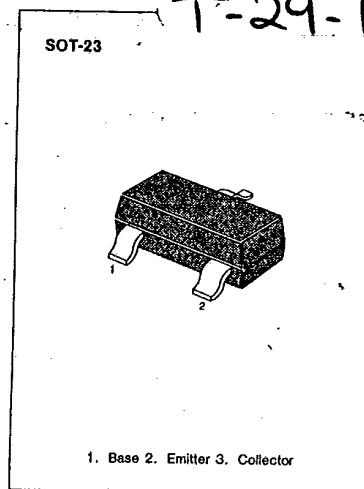


BCW60B**NPN EPITAXIAL SILICON TRANSISTOR****GENERAL PURPOSE TRANSISTOR****ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|--------|------------------|
| Collector-Base Voltage | V_{CB0} | 32 | V |
| Collector-Emitter Voltage | V_{CEO} | 32 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_C | 100 | mA |
| Collector Dissipation | P_C | 350 | mW |
| Storage Temperature | T_{stg} | 150 | $^\circ\text{C}$ |

• Refer to MMBT3904 for graphs

**ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)**

| Characteristic | Symbol | Test Condition | Min | Max | Unit |
|--------------------------------------|---------------|--|------|------|------|
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = 2.0\text{mA}, I_B = 0$ | 32 | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E = 1.0\mu\text{A}, I_C = 0$ | 5 | | V |
| Collector Cutoff Current | I_{CES} | $V_{CE} = 32\text{V}, V_{BE} = 0$ | | 20 | nA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 4\text{V}, I_C = 0$ | | 20 | nA |
| DC Current Gain | h_{FE} | $V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ | 20 | | |
| | | $V_{CE} = 5\text{V}, I_C = 2.0\text{mA}$ | 180 | 310 | |
| | | $V_{CE} = 1\text{V}, I_C = 50\text{mA}$ | 70 | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 50\text{mA}, I_B = 1.25\text{mA}$ | | 0.55 | V |
| | | $I_C = 10\text{mA}, I_B = 0.25\text{mA}$ | | 0.35 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 50\text{mA}, I_B = 1.25\text{mA}$ | 0.7 | 1.05 | V |
| | | $I_C = 50\text{mA}, I_B = 0.25\text{mA}$ | 0.6 | 0.85 | V |
| Base-Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = 5\text{V}, I_C = 2.0\text{mA}$ | 0.55 | 0.75 | V |
| Current Gain-Bandwidth Product | f_T | $I_C = 10\text{mA}, V_{CE} = 5\text{V}$ | 125 | | MHz |
| | | $f = 1\text{MHz}$ | | | |
| Output Capacitance | C_{ob} | $V_{CB} = 10\text{V}, I_E = 0$ | | 4.5 | pF |
| | | $f = 1.0\text{MHz}$ | | | |
| Noise Figure | NF | $I_C = 0.2\text{mA}, V_{CE} = 5\text{V}$ | | 6 | dB |
| | | $R_S = 2\text{K}\Omega, f = 1\text{KHz}$ | | | |
| Turn On Time | t_{on} | $I_C = 10\text{mA}, I_{B1} = 1\text{mA}$ | | 150 | ns |
| Turn Off Time | t_{off} | $V_{BB} = 3.6\text{V}, I_{B2} = 1\text{mA}$ | | 800 | ns |
| | | $R_1 = R_2 = 5\text{K}\Omega, R_L = 990\Omega$ | | | |

Marking