

SOT23 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

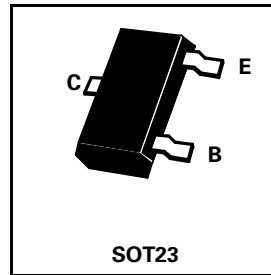
BCW68

ISSUE 5 - MARCH 2001

PARTMARKING DETAILS –

| | | | |
|----------|----|-----------|----|
| BCW68F – | DF | BCW68FR – | 7T |
| BCW68G – | DG | BCW68GR – | 5T |
| BCW68H – | DH | BCW68HR – | 7N |

COMPLEMENTARY TYPES – BCW66



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Emitter Voltage | V_{CES} | -60 | V |
| Collector-Emitter Voltage | V_{CEO} | -45 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Peak Pulse Current(10ms) | I_{CM} | -1000 | mA |
| Continuous Collector Current | I_C | -800 | mA |
| Base Current | I_B | -100 | mA |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 330 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

BCW68

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---|---------------|----------|------------|------------|---------------------|--|
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | -45 | | | V | $I_{CEO} = -10\text{mA}$ |
| | $V_{(BR)CES}$ | -60 | | | | $I_C = -10\mu\text{A}$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | -5 | | | V | $I_{EBO} = -10\mu\text{A}$ |
| Collector-Emitter Cut-off Current | I_{CES} | | | -20 -10 | nA μA | $V_{CES} = -45\text{V}$ $V_{CES} = -45\text{V}, T_{amb} = 150^{\circ}\text{C}$ |
| Emitter-Base Cut-Off Current | I_{EBO} | | | -20 | nA | $V_{EBO} = -4\text{V}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | -0.7 | -0.3 | V V | $I_C = -100\text{mA}, I_B = -10\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | | -2 | V | $I_C = -500\text{mA}, I_B = -50\text{mA}^*$ |
| Static Forward Current Transfer | BCW68F | h_{FE} | 100 35 | 170 | 250 | $I_C = -100\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ |
| | BCW68G | h_{FE} | 160 60 | 250 | 400 | $I_C = -100\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ |
| | BCW68H | h_{FE} | 250 100 | 350 | 630 | $I_C = -100\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ |
| Transition Frequency | f_T | 100 | | | MHz | $I_C = -20\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$ |
| Output Capacitance | C_{obo} | | 12 | 18 | pF | $V_{CB} = -10\text{V}, f = 1\text{MHz}$ |
| Input Capacitance | C_{ibo} | | | 80 | pF | $V_{EB} = -0.5\text{V}, f = 1\text{MHz}$ |
| Noise Figure | N | | 2 | 10 | dB | $I_C = -0.2\text{mA}, V_{CE} = -5\text{V}$ $R_G = 1\text{K}\Omega, f = 1\text{KH}$ $\Delta f = 200\text{Hz}$ |
| Switching times: Turn-On Time Turn-Off Time | t_{on} | | | 100 | ns | $I_C = -150\text{mA}$ |
| | t_{off} | | | 400 | ns | $I_{B1} = -I_{B2} = -15\text{mA}$ $R_L = 150\Omega$ |

Spice parameter data is available upon request for this device

*Measured under pulsed conditions.



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