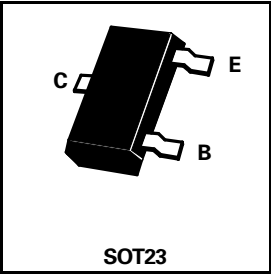


SOT23 NPN PLANAR SMALL SIGNAL TRANSISTORS

BCW71
BCW72

ISSUE 2 – FEBRUARY 1995

PARTMARKING DETAILS – BCW71 – K1
BCW72 – K2
BCW71R – K4
BCW72R – K5



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|-----------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 50 | V |
| Collector-Emitter Voltage | V_{CEO} | 45 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Peak Pulse Current | I_{CM} | 200 | mA |
| Continuous Collector Current | I_C | 100 | mA |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{TOT} | 330 | mW |
| Operating and Storage Temperature Range | tj:tstg | -55 to +150 | $^{\circ}C$ |

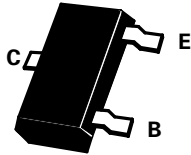
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|---------------|------|------------|------------|---------------|---|
| Collector-Base Cut-Off Current | I_{CBO} | | | 100 10 | nA μA | $I_E=0, V_{CB}=20V$ $I_E=0,$ $V_{CB}=20V, T_j=100^{\circ}C$ |
| Base-Emitter Voltage | V_{BE} | 550 | | 700 | mV | $I_C=2.0mA, V_{CE}=5V$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 120 210 | 250 | mV mV | $I_C=10mA, I_B=0.5mA$ $I_C=50mA, I_B=2.5mA$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 750 850 | | mV mV | $I_C=10mA, I_B=0.5mA$ $I_C=50mA, I_B=2.5mA$ |
| Static Forward Current Transfer Ratio | h_{FE} | 110 | 90 | 220 | | $I_C=10\mu A, V_{CE}=5V$ $I_C=2mA, V_{CE}=5V$ |
| | | | 200 | 150 450 | | $I_C=10\mu A, V_{CE}=5V$ $I_C=2mA, V_{CE}=5V$ |
| Transition Frequency | f_T | | 300 | | MHz | $I_C=10mA, V_{CE}=5V$ $f=35MHz$ |
| Collector Capacitance | C_{TC} | | | 4 | pF | $I_E=I_e=0, V_{CB}=10V$ $f=1MHz$ |
| Noise Figure | N | | | 10 | dB | $I_C=200\mu A, V_{CE}=5V$ $R_S=2K\Omega, f=1KHz$ $B=200Hz$ |

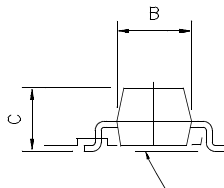
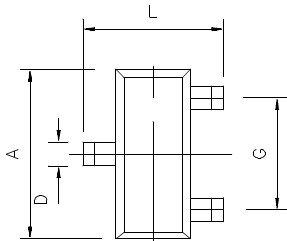
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

Spice parameter data is available upon request for these devices

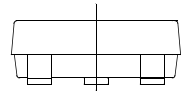
BCW71 BCW72



| DIM | Millimeters | | Inches | |
|-----|-------------|------|-----------|--------|
| | Min | Max | Min | Max |
| A | 2.67 | 3.05 | 0.105 | 0.120 |
| B | 1.20 | 1.40 | 0.047 | 0.055 |
| C | - | 1.10 | - | 0.043 |
| D | 0.37 | 0.53 | 0.0145 | 0.021 |
| F | 0.085 | 0.15 | 0.0033 | 0.0059 |
| G | NOM 1.9 | | NOM 0.075 | |
| K | 0.01 | 0.10 | 0.0004 | 0.004 |
| L | 2.10 | 2.50 | 0.0825 | 0.0985 |
| N | NOM 0.95 | | NOM 0.37 | |



STAND OFF HEIGHT K





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