

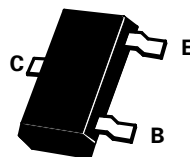
# SOT23 PNP SILICON PLANAR SMALL SIGNAL TRANSISTORS

**BCW29**  
**BCW30**

ISSUE 3 - JULY 1995

PARTMARKING DETAILS - BCW29 - C1  
BCW30 - C2  
BCW29R - C4  
BCW30R - C5

COMPLEMENTARY TYPES - BCW29 - BCW31  
BCW30 - BCW32



**SOT23**

## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -30         | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -30         | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -20         | V           |
| Peak Pulse Current                         | $I_{CM}$       | -5          | A           |
| Continuous Collector Current               | $I_C$          | -100        | A           |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 330         | mW          |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

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

| PARAMETER                             | SYMBOL        | MIN.     | TYP.         | MAX.        | UNIT          | CONDITIONS.                                                               |
|---------------------------------------|---------------|----------|--------------|-------------|---------------|---------------------------------------------------------------------------|
| Base - Emitter Voltage                | $V_{BE}$      | -600     |              | -750        | mV            | $I_C = -2mA, V_{CE} = -5V$                                                |
| Collector-Emitter Saturation Voltage  | $V_{CE(SAT)}$ |          | -80<br>-150  | 250         | mV<br>mV      | $I_C = -10mA, I_B = -0.5mA$<br>$I_C = -50mA, I_B = -2.5mA$                |
| Base-Emitter Saturation Voltage       | $V_{BE(SAT)}$ |          | -720<br>-810 |             | mV<br>mV      | $I_C = -10mA, I_B = -0.5mA$<br>$I_C = -50mA, I_B = -2.5mA$                |
| Collector- Base Cut-Off Current       | $I_{CBO}$     |          |              | -100<br>-10 | nA<br>$\mu A$ | $I_E = 0, V_{CB} = -20V$<br>$I_E = 0, V_{CB} = -20V, T_j = 100^{\circ}C$  |
| Static Forward Current Transfer Ratio | BCW29         | $h_{FE}$ | 120          | 90          | 260           | $I_C = -10\mu A, V_{CE} = -5V$<br>$I_C = -2mA, V_{CE} = -5V$              |
|                                       | BCW30         | $h_{FE}$ | 215          | 150         | 500           | $I_C = -10\mu A, V_{CE} = -5V$<br>$I_C = -2mA, V_{CE} = -5V$              |
| Transition Frequency                  | $f_T$         |          | 150          |             | MHz           | $I_C = -10mA, V_{CE} = -5V$<br>$f = 35MHz$                                |
| Collector Capacitance                 | $C_{TC}$      |          |              | 7           | pF            | $I_E = I_B = 0, V_{CB} = -10V$<br>$f = 1MHz$                              |
| Noise Figure                          | N             |          |              | 10          | dB            | $I_C = -200mA, V_{CE} = -5V$<br>$R_S = 2K\Omega, f = 1KHz$<br>$B = 200Hz$ |

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device