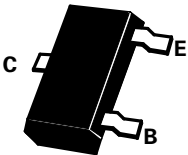


**SOT23 NPN SILICON PLANAR  
SMALL SIGNAL TRANSISTORS**

ISSUE 2 – FEBRUARY 95

**BCV71  
BCV72**

PARTMARKING DETAIL: — BCV71 — K7  
BCV72 — K8  
BCV71R — K6  
BCV72R — K9



**SOT23**

**ABSOLUTE MAXIMUM RATINGS.**

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 80          | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 60          | 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    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

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

| PARAMETER                                   | SYMBOL             | MIN.                           | TYP.       | MAX.      | UNIT     | CONDITIONS.                                                      |
|---------------------------------------------|--------------------|--------------------------------|------------|-----------|----------|------------------------------------------------------------------|
| Collector- base<br>Cut-Off Current          | $I_{CBO}$          |                                |            | 100<br>10 | nA<br>mA | $V_{CB}=20V$<br>$V_{CB}=20V, T_{amb}=100^{\circ}C$               |
| Base - Emitter Voltage                      | $V_{BE}$           | 550                            |            | 750       | mV       | $I_C=2mA, V_{CE}=5V$                                             |
| Collector-Emitter<br>Saturation Voltage     | $V_{CE(sat)}$      |                                | 120<br>210 | 250       | mV<br>mV | $I_C=10mA, I_B=0.5mA$<br>$I_C=50mA, I_B=2.5mA$                   |
| Base-Emitter<br>Saturation Voltage          | $V_{BE(sat)}$      |                                | 750<br>850 |           | mV<br>mV | $I_C=10mA, I_B=0.5mA$<br>$I_C=50mA, I_B=2.5mA$                   |
| Static Forward<br>Current Transfer<br>Ratio | BCV71<br><br>BCV72 | $h_{FE}$<br><br>110<br><br>200 | 90         | 220       |          | $I_C=10mA, V_{CE}=5V$<br>$I_C=2mA, V_{CE}=5V$                    |
|                                             |                    |                                | 150        | 450       |          | $I_C=10mA, V_{CE}=5V$<br>$I_C=2mA, V_{CE}=5V$                    |
| Transition Frequency                        | $f_T$              |                                | 300        |           | MHz      | $I_C=10mA, V_{CE}=5V$<br>$f=35MHz$                               |
| Collector Capacitance                       | $C_{TC}$           |                                |            | 4         | pF       | $I_E=I_B=0, V_{CB}=10V$<br>$f=1MHz$                              |
| Noise Figure                                | N                  |                                |            | 10        | dB       | $I_C=200\mu A, V_{CE}=5V$<br>$R_S=2K\Omega, f=1KHz$<br>$B=200Hz$ |

Spice parameter data is available upon request for this device