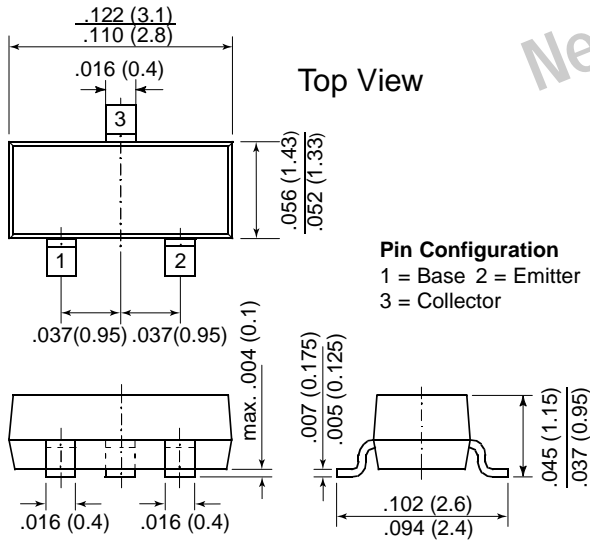


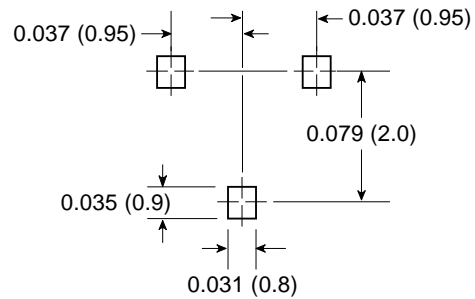


**TO-236AB (SOT-23)**



*New Product*

**Mounting Pad Layout**



### Features

- NPN Silicon Epitaxial Planar Transistors
- Suited for low level, general purpose applications.
- Low current, low voltage.
- As complementary types, BCW69 and BCW70 PNP transistors are recommended.

### Mechanical Data

**Case:** SOT-23 Plastic Package

**Weight:** approx. 0.008g

**Marking Code:** BCW71 = K1  
 BCW72 = K2

**Packaging Codes/Options:**

E8/10K per 13" reel (8mm tape), 30K/box  
 E9/3K per 7" reel (8mm tape), 30K/box

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CE0</sub>	45	V
Emitter-Base Voltage	V <sub>EB0</sub>	5.0	V
Collector Current	I <sub>C</sub>	100	mA
Peak Collector Current	I <sub>CM</sub>	200	mA
Peak Base Current	I <sub>BM</sub>	200	mA
Power Dissipation	P <sub>tot</sub>	250	mW
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	500 <sup>(1)</sup>	°C/W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>S</sub>	-65 to +150	°C

**Note:** (1) Mounted on FR-4 printed-circuit board.

**Electrical Characteristics** (T<sub>J</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
DC Current Gain	BCW71	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 10 μA	—	90	—	—
	BCW72		—	150	—	
	BCW71	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 mA	110	—	220	
	BCW72		200	—	450	
Collector-Emitter Saturation Voltage	V <sub>CEsat</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0.5 mA I <sub>C</sub> = 50 mA, I <sub>B</sub> = 2.5 mA	— —	120 210	250 —	mV
Base-Emitter Saturation Voltage	V <sub>BEsat</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0.5 mA I <sub>C</sub> = 50 mA, I <sub>B</sub> = 2.5 mA	— —	750 850	— —	mV
Base-Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 mA	550	—	700	mV
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 20 V, V <sub>BE</sub> = 0	—	—	100	nA
		V <sub>CB</sub> = 20 V, V <sub>BE</sub> = 0, T <sub>A</sub> = 100°C	—	—	10	μA
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 10 mA f = 100 MHz	100	—	—	MHz
Collector-Base Capacitance	C <sub>CB0</sub>	V <sub>CB</sub> = 10 V, f = 1 MHz, I <sub>E</sub> = 0	—	2.5	—	pF
Noise Figure	F	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 200 μA, R <sub>S</sub> = 2 kΩ, f = 1 kHz, B = 200 Hz	—	—	10	dB