



New Product

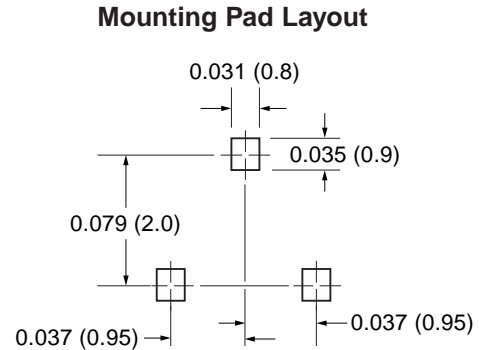
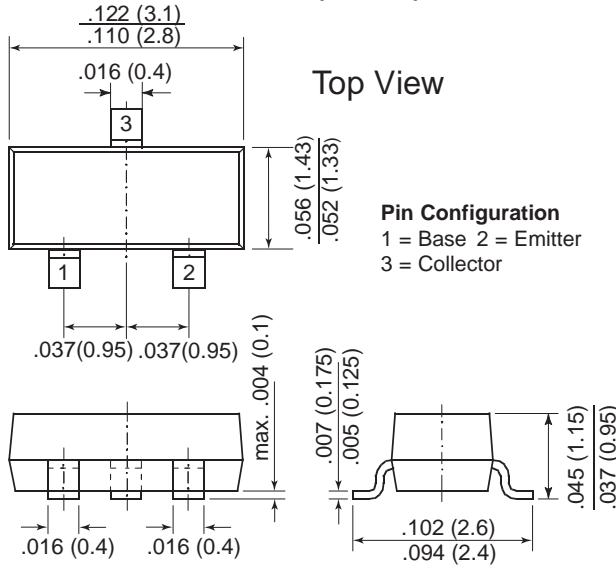
BCW69 and BCW70

Vishay Semiconductors
formerly General Semiconductor

Small Signal Transistor (PNP)



TO-236AB (SOT-23)



Features

- PNP Silicon Epitaxial Planar Transistors
- Suited for low level, general purpose applications.
- Low current, low voltage.
- As complementary types, BCW71 and BCW72 NPN transistors are recommended.

Mechanical Data

Case: SOT-23 Plastic Package

Weight: approx. 0.008g

Marking Code: BCW69 = H1
BCW70 = H2

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	$-V_{CBO}$	50	V
Collector-Emitter Voltage	$-V_{CEO}$	45	V
Emitter-Base Voltage	$-V_{EBO}$	5.0	V
Collector Current	$-I_C$	100	mA
Peak Collector Current	$-I_{CM}$	200	mA
Peak Base Current	$-I_{BM}$	200	mA
Power Dissipation	P_{tot}	250	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	500 ⁽¹⁾	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

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

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Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
DC Current Gain	BCW69	$-V_{CE} = 5\text{ V}, -I_C = 10\ \mu\text{A}$	—	90	—	—
	BCW70		—	150	—	
	BCW69	$-V_{CE} = 5\text{ V}, -I_C = 2\text{ mA}$	120	—	260	
	BCW70		215	—	500	
Collector-Emitter Saturation Voltage	$-V_{CEsat}$	$-I_C = 10\text{ mA}, -I_B = 0.5\text{ mA}$ $-I_C = 50\text{ mA}, -I_B = 2.5\text{ mA}$	— —	80 150	300 —	mV
Base-Emitter Saturation Voltage	$-V_{BEsat}$	$-I_C = 10\text{ mA}, -I_B = 0.5\text{ mA}$ $-I_C = 50\text{ mA}, -I_B = 2.5\text{ mA}$	— —	720 810	— —	mV
Base-Emitter Voltage	$-V_{BE}$	$-V_{CE} = 5\text{ V}, -I_C = 2\text{ mA}$	600	—	750	mV
Collector Cut-off Current	$-I_{CBO}$	$-V_{CB} = 20\text{ V}, V_{EB} = 0$	—	—	100	nA
		$-V_{CB} = 20\text{ V}, V_{EB} = 0,$ $T_A = 100^\circ\text{C}$	—	—	10	μA
Gain-Bandwidth Product	f_T	$-V_{CE} = 5\text{ V}, -I_C = 10\text{ mA}$ $f = 100\text{ MHz}$	100	—	—	MHz
Collector-Base Capacitance	C_{CBO}	$-V_{CB} = 10\text{ V}, f = 1\text{ MHz}, I_E = 0$	—	4.5	—	pF
Noise Figure	F	$-V_{CE} = 5\text{ V}, -I_C = 200\ \mu\text{A},$ $R_S = 2\text{ k}\Omega, f = 100\text{ kHz},$ $B = 200\text{ Hz}$	—	2	6	dB