

PNP General Purpose Transistors

BCW69,BCW70

■ Features

- Low current (max. 100 mA).
- Low voltage (max. 45 V).

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-45	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Peak collector current	I_{CM}	-200	mA
Peak base current	I_{BM}	-200	mA
Total power dissipation	P_{tot}	250	mW
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$
Operating ambient temperature	R_{amb}	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient *	$R_{th\ j-a}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	ICBO	IE = 0; VCB = -20 V			-100	nA
	ICBO	IE = 0; VCB = -20 V; Tj = 100 °C			-10	μA
Emitter cutoff current	IEBO	IC = 0; VEB = -5 V			-100	nA
DC current gain	BCW69	hFE IC = -10 μA; VCE = -5 V		90		
	BCW70			150		
DC current gain	BCW69	hFE IC = -2 mA; VCE = -5 V	120		260	
	BCW70		215		500	
Collector-emitter saturation voltage	VCE(sat)	IC = -10 mA; IB = -0.5 mA		-80		mV
		IC = -50 mA; IB = -2.5 mA *		-150		mV
Base to emitter saturation voltage	VBE(sat)	IC = -10 mA; IB = -0.5 mA		-720		mV
		IC = -50 mA; IB = -2.5 mA *		-810		mV
Base to emitter voltage	VBE	IC = -2 mA; VCE = -5 V	-600		-750	mV
Collector capacitance	Cc	IE = ie = 0; VCB = -10 V; f = 1 MHz		4.5		pF
Transition frequency	fr	IC = -10 mA; VCE = -5 V; f = 100 MHz	100			MHz
Noise figure	NF	IC = -200 μA; VCE = -5 V; Rs = 2 kΩ; f = 1 kHz; B = 200 Hz			10	dB

* Pulse test: tp ≤ 300 μs; d ≤ 0.02.

■ hFE Classification

TYPE	BCW69	BCW70
Marking	H1	H2