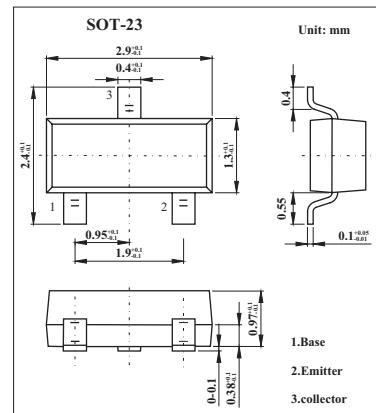


NPN General Purpose Transistors

BCW31, BCW32, BCW33

■ Features

- Low current (max. 100 mA).
- Low voltage (max. 32 V).



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	32	V
Collector-emitter voltage	V _{CEO}	32	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	°C
Junction temperature	T _j	150	°C
Operating ambient temperature	T _{amb}	-65 to +150	°C
Thermal resistance from junction to ambient *	R _{th j-a}	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

BCW31,BCW32,BCW33

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I _{CBO}	I _E = 0; V _{CB} = 32 V			100	nA
	I _{CBO}	I _E = 0; V _{CB} = 32 V; T _j = 100 °C			10	µA
Emitter cutoff current	I _{EBO}	I _C = 0; V _{EB} = 5 V			100	nA
DC current gain	BCW31	h _{FE}	I _C = 2 mA; V _{CE} = 5 V	110	120	
	BCW32			200	450	
	BCW33			420	800	
Collector-emitter saturation voltage	V _{CESAT}	I _C = 10 mA; I _B = 0.5 mA		120	250	mV
		I _C = 50 mA; I _B = 2.5 mA		210		mV
Base to emitter saturation voltage	V _{BESAT}	I _C = 10 mA; I _B = 0.5 mA		750		mV
		I _C = 50 mA; I _B = 2.5 mA		850		mV
Base to emitter voltage	V _{BE}	I _C = 2 mA; V _{CE} = 5 V	550		700	mV
Collector capacitance	C _C	I _E = i _E = 0; V _{CB} = 10 V; f = 1 MHz		2.5		pF
Transition frequency	f _T	I _C = 10 mA; V _{CE} = 5 V; f = 100 MHz	100			MHz
Noise figure	NF	I _C = 200 µA; V _{CE} = 5 V; R _S = 2 kΩ; f = 1 kHz; B = 200 Hz			10	dB

■ hFE Classification

TYPE	BCW31	BCW32	BCW33
Marking	D1	D2	D3