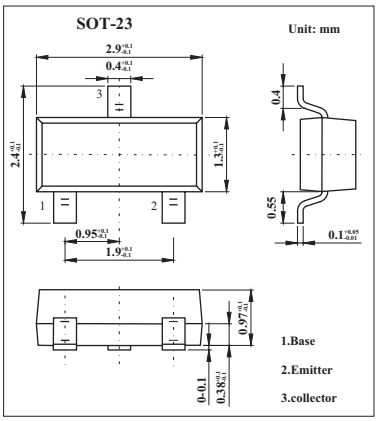
NPN General Purpose Transistors

BCF81



Features

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

Absolute Maximum Ratings Ta = 25℃

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}	100	mA
Total power dissipation *	P_{tot}	250	mW
Storage temperature	T_{stg}	-65 to +150	℃
Junction temperature	T_j	150	℃
Operating ambient temperature	R_{amb}	-65 to +150	℃
Thermal resistance from junction to ambient *	$R_{th\ j\text{-}a}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

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Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	I_E = 0; V_{CB} = 20 V			100	nA
	I_{CBO}	I_E = 0; V_{CB} = 20 V; T_j = 100 ℃			10	μA
Emitter cutoff current	I_{EBO}	I_C = 0; V_{EB} = 5 V			100	nA
DC current gain	h_{FE}	I_C = 2 mA; V_{CE} = 5 V	420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	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	$V_{BE(sat)}$	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 = ie = 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		1.2	4	dB

Marking

Marking	K9p