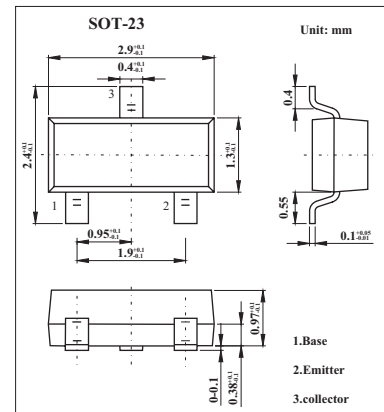


PNP General Purpose Transistor

BC859,BC860

■ Features

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

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

Parameter	Symbol	BC859	BC860	Unit
Collector-base voltage	V_{CB0}	-30	-50	V
Collector-emitter voltage	V_{CE0}	-30	-45	V
Emitter-base voltage	V_{EB0}	-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
Junction temperature	T_j	150		$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +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.

BC859,BC860■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	ICBO	$V_{CB} = -30\text{ V}, I_E = 0$		-1	-15	nA
	ICBO	$V_{CB} = -30\text{ V}, I_E = 0, T_j = 150^\circ\text{C}$			-4	μA
Emitter cutoff current	IEBO	$V_{EB} = -5\text{ V}, I_C = 0$			-100	nA
DC current gain	BC859B,BC860B	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	220		475	
	BC859C,BC860C		420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$		-75	-300	mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA};$		-250	-650	mV
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$		-700		mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA};$		-850		mV
Base-emitter voltage *2	V_{BE}	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	-600	-650	-750	mV
		$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}$			-820	mV
Collector capacitance	C_C	$V_{CB} = -10\text{ V}; I_E = I_C = 0; f = 1\text{ MHz}$		4.5		pF
Emitter capacitance	C_E	$I_C = I_E = 0; V_{EB} = -500\text{ mV}; f = 1\text{ MHz}$		10		
Transition frequency	f_T	$V_{CE} = -5\text{ V}; I_C = -10\text{ mA}; f = 100\text{ MHz}$	100			MHz
Noise figure	NF	$I_C = -200\text{ }\mu\text{A}; V_{CE} = -5\text{ V}; R_s = 2\text{ k}\Omega; f = 1\text{ kHz}; B = 200\text{ Hz}$			4	dB

*1. $V_{BE(sat)}$ decreases by about -1.7 mV/K with increasing temperature.

*2. V_{BE} decreases by about -2 mV/K with increasing temperature.

■ hFE Classification

TYPE	BC859B	BC859C
Marking	4B	4C

TYPE	BC860B	BC860C
Marking	4F	4G