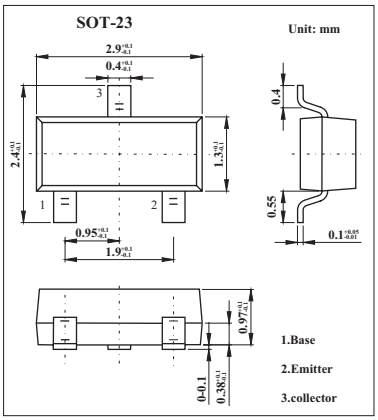
PNP General Purpose Transistor

BC859,BC860



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	BC859	BC860	Unit
Collector-base voltage	V_{CBO}	-30	-50	V
Collector-emitter voltage	V_{CEO}	-30	-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
Junction temperature	T_j	150		℃
Storage temperature	T_{stg}	-65 to +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}	V_{CB} = -30 V, I_E = 0		-1	-15	nA
		I_{CBO}	V_{CB} = -30 V, I_E = 0 , T_j = 150℃			-4	μA
Emitter cutoff current		I_{EBO}	V_{EB} = -5 V, I_C = 0			-100	nA
DC current gain	BC859B,BC860B	h_{FE}	I_C = -2 mA; V_{CE} = -5 V	220		475	
	BC859C,BC860C			420		800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = -10 mA; I_B = -0.5 mA		-75	-300	mV
			I_C = -100 mA; I_B = -5 mA;		-250	-650	mV
Base-emitter saturation voltage *1		$V_{BE(sat)}$	I_C = -10 mA; I_B = -0.5 mA		-700		mV
			I_C = -100 mA; I_B = -5 mA;		-850		mV
Base-emitter voltage *2		V_{BE}	I_C = -2 mA; V_{CE} = -5 V	-600	-650	-750	mV
			I_C = -10 mA; V_{CE} = -5 V			-820	mV
Collector capacitance		C_C	V_{CB} = -10 V; I_E = Ie = 0;f = 1 MHz		4.5		pF
Emitter capacitance		C_e	I_C = Ic = 0; V_{EB} = -500 mV; f = 1 MHz		10		
Transition frequency		f_T	V_{CE} = -5 V; I_C = -10 mA;f = 100 MHz	100			MHz
Noise figure		NF	I_C = -200 □A; V_{CE} = -5 V;R_S = 2 kΩ; f = 1 kHz;B = 200 Hz			4	dB

*1. V_{BEsat} decreases by about -1.7 mV/K with increasing temperature.

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

■ h_{FE} Classification

TYPE	BC859B	BC859C
Marking	4B	4C

TYPE	BC860B	BC860C
Marking	4F	4G