

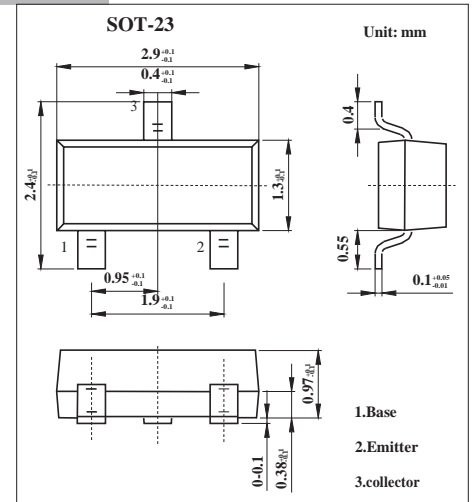
SOT-23 Plastic-Encapsulate Transistors

Features

- Low current (max. 100 mA).
- Low voltage (max. 65 V).
- PNP General Purpose Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	BC856	BC857	BC858	Unit
Collector-base voltage	V _{CB0}	-80	-50	-30	V
Collector-emitter voltage	V _{CE0}	-65	-45	-30	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			°C
Storage temperature	T _{stg}	-65 to +150			°C
Operating ambient temperature	R _{amb}	-65 to +150			°C
Thermal resistance from junction to ambient *	R _{thj-a}	500			K/W

* Transistor mounted on an FR4 printed-circuit board, standard footprint.

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector cutoff current	I _{CB0}	V _{CB} = -30 V, I _E = 0		-1	-15	nA
	I _{CB0}	V _{CB} = -30 V, I _E = 0, T _j = 150 °C			-4	µA
Emitter cutoff current	I _{EB0}	V _{EB} = -5 V, I _C = 0			-100	nA
DC current gain	BC856	I _C = -2 mA; V _{CE} = -5 V	125		475	
	BC857		125		800	
	BC856A, BC857A		125		250	
	BC856B, BC857B, BC858B		220		475	
	BC857C		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	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	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 = I _C = 0; f = 1 MHz		4.5		pF
Transition frequency	f _T	V _{CE} = -5 V; I _C = -10 mA; f = 100 MHz	100			MHz
Noise figure	NF	I _C = -200 µA; V _{CE} = -5V; R _S = 2KΩ; f = 1 kHz; B = 200 Hz		2	10	dB

* Pulse test: t_p ≤ 300µs, δ ≤ 0.02.

hFE Classification

TYPE	BC856	BC856A	BC856B	BC857	BC857A	BC857B	BC857C	BC858B
Marking	3D	3A	3B	3H	3E	3F	3G	3K