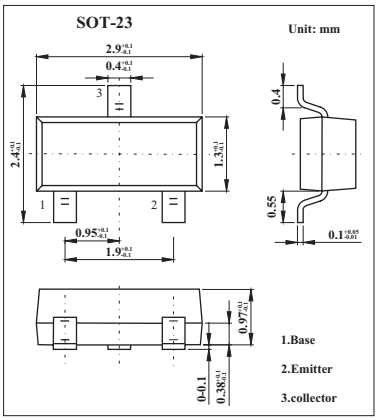
TY Semicondutor®

Product specification

BC856,BC857,BC858



■ Features

- Low current (max. 100 mA).
- Low voltage (max. 65 V).

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	BC856	BC857	BC858	Unit
Collector-base voltage	V_{CBO}	-80	-50	-30	V
Collector-emitter voltage	V_{CEO}	-65	-45	-30	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, standard footprint.

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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	BC856	h_{FE}	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 = Ie = 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 □A; V_{CE} = -5 V;R_S = 2 kΩ; f = 1 kHz;B = 200 Hz		2	10	dB

* Pulse test: tp ⩽ 300μs, δ ⩽ 0.02.

■ h_{FE} Classification

TYPE	BC856	BC856A	BC856B
Marking	3D	3A	3B

TYPE	BC857	BC857A	BC857B	BC857C
Marking	3H	3E	3F	3G

TYPE	BC858B
Marking	3K