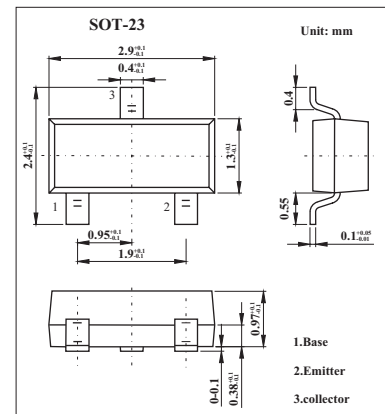
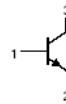


NPN General Purpose Transistor

BC846,BC847,BC848

■ Features

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

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

Parameter	Symbol	BC846	BC847	BC848	Unit
Collector-base voltage	V_{CB0}	80	50	30	V
Collector-emitter voltage	V_{CE0}	65	45	30	V
Emitter-base voltage	V_{EB0}	6	6	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, standard footprint.

BC846,BC847,BC848

■ Electrical Characteristics Ta = 25°C

Parameter		Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current		ICBO	V _{CB} = 30 V, I _E = 0			15	nA
		ICBO	V _{CB} = 30 V, I _E = 0, T _j = 150°C			5	μA
Emitter cutoff current		IEBO	V _{EB} = 5 V, I _C = 0			100	nA
DC current gain	BC846	h _{FE}	I _C = 2 mA; V _{CE} = 5 V	110		450	
	BC847			110		800	
	BC846A,BC847A			110	180	220	
	BC846B,BC847B,BC848B			200	290	450	
	BC847C			420	520	800	
Collector-emitter saturation voltage		V _{CE(sat)}	I _C = 10 mA; I _B = 0.5 mA		90	250	mV
			I _C = 100 mA; I _B = 5 mA; *		200	600	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; *		900		mV
Base-emitter voltage		V _{BE}	I _C = 2 mA; V _{CE} = 5 V	580	660	700	mV
			I _C = 10 mA; V _{CE} = 5 V			770	mV
Collector capacitance		C _C	V _{CB} = 10 V; I _E = I _C = 0; f = 1 MHz		2.5		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} = 5 V; R _S = 2 kΩ; f = 1 kHz; B = 200 Hz		2	10	dB

* Pulse test: t_p ≤ 300 μs, δ ≤ 0.02.

■ hFE Classification

TYPE	BC846	BC846A	BC846B
Marking	1D	1A	1B

TYPE	BC847	BC847A	BC847B	BC847C
Marking	1H	1E	1F	1G

TYPE	BC848
Marking	1K