

SMD Type

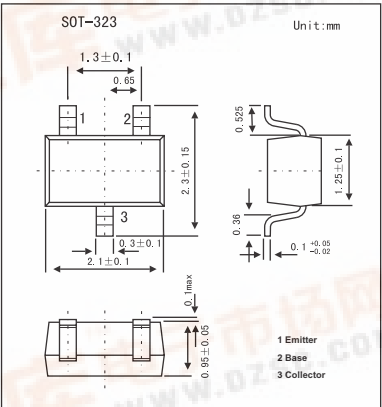
Transistors

NPN General Purpose Transistor

BC846W,BC847W,BC848W

■ Features

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



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	BC846W	BC847W	BC848W	Unit
Collector-base voltage	VCBO	80	50	30	V
Collector-emitter voltage	VCEO	65	45	30	V
Emitter-base voltage	VEBO	6	6	5	V
Collector current	IC	100			mA
Peak collector current	ICM	200			mA
Peak base current	IBM	200			mA
Total power dissipation	Ptot	200			mW
Junction temperature	Tj	150			°C
Storage temperature	Tstg	-65 to +150			°C
Operating ambient temperature	Ramb	-65 to +150			°C
Thermal resistance from junction to ambient	Rth j-a	625			K/W

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■ 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	BC846W	hFE	I _C = 2 mA; V _{CE} = 5 V	110		450	
	BC847W,BC848W			110		800	
	BC846AW,BC847AW			110	180	220	
	BC846BW,BC847BW			200	290	450	
	BC847CW			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			3	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			10	dB

* Pulse test: t_p ≤ 300 μs, δ ≤ 0.02.

■ hFE Classification

TYPE	BC846W	BC846AW	BC846BW
Marking	1D	1A	1B

TYPE	BC847W	BC847AW	BC847BW	BC847CW
Marking	1H	1E	1F	1G

TYPE	BC848W
Marking	1M