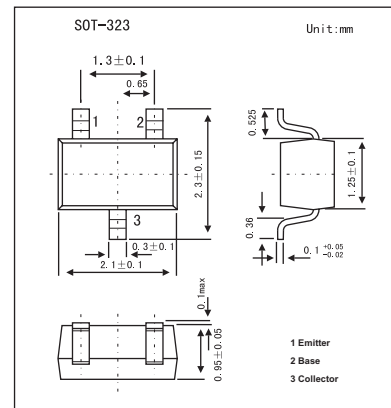


## PNP General Purpose Transistor

## BC856W,BC857W,BC858W

## ■ Features

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

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

Parameter	Symbol	BC856W	BC857W	BC858W	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	$P_{tot}$	200			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	$R_{th\ j-a}$	625			K/W

**BC856W,BC857W,BC858W**

## ■ Electrical Characteristics Ta = 25°C

Parameter		Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current		ICBO	V <sub>CB</sub> = -30 V; I <sub>E</sub> = 0		-1	-15	nA
		ICBO	V <sub>CB</sub> = -30 V; I <sub>E</sub> = 0; T <sub>J</sub> = 150 °C			-4	μA
Emitter cutoff current		IEBO	VEB = -5 V; I <sub>C</sub> = 0			-100	nA
DC current gain	BC856W	hFE	I <sub>C</sub> = -2 mA; V <sub>CE</sub> = -5 V	125		475	
	BC857W,BC858W			125		800	
	BC856AW,BC857AW			125		250	
	BC856BW,BC857BW			220		475	
	BC857CW			420		800	
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = -10 mA; I <sub>B</sub> = -0.5 mA		-75	-300	mV
			I <sub>C</sub> = -100 mA; I <sub>B</sub> = -5 mA;*		-250	-600	mV
Base-emitter saturation voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> = -10 mA; I <sub>B</sub> = -0.5 mA		-700		mV
			I <sub>C</sub> = -100 mA; I <sub>B</sub> = -5 mA;*		-850		mV
Base-emitter voltage		V <sub>BE</sub>	I <sub>C</sub> = -2 mA; V <sub>CE</sub> = -5 V	-600	-650	-750	mV
			I <sub>C</sub> = -10 mA; V <sub>CE</sub> = -5 V			-820	mV
Collector capacitance		C <sub>C</sub>	V <sub>CB</sub> = -10 V; I <sub>E</sub> = I <sub>C</sub> = 0; f = 1 MHz			3	pF
Emitter capacitance		C <sub>E</sub>	VEB = -0.5 V; I <sub>C</sub> = I <sub>E</sub> = 0; f = 1 MHz			12	pF
Transition frequency		f <sub>T</sub>	V <sub>CE</sub> = -5 V; I <sub>C</sub> = -10 mA; f = 100 MHz	100			MHz
Noise figure		NF	I <sub>C</sub> = -200 μA; V <sub>CE</sub> = -5 V; R <sub>S</sub> = 2 kΩ; f = 1 kHz; B = 200 Hz			10	dB

\* Pulse test: t<sub>p</sub> ≤ 300 μs, δ ≤ 0.02.

## ■ hFE Classification

TYPE	BC856W	BC856AW	BC856BW
Marking	3D	3A	3B

TYPE	BC857W	BC857AW	BC857BW	BC857CW
Marking	3H	3E	3F	3G

TYPE	BC858W
Marking	3M