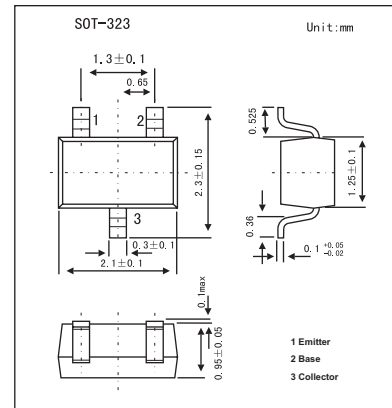


## BC859W, BC860W

### ■ Features

- Low current (max. 100 mA).
- Low voltage (max. 45 V).



### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	BC859W	BC860W	Unit
Collector-base voltage	V <sub>CB0</sub>	-30	-50	V
Collector-emitter voltage	V <sub>CE0</sub>	-30	-45	V
Emitter-base voltage	V <sub>EB0</sub>	-5		V
Collector current	I <sub>C</sub>	-100		mA
Peak collector current	I <sub>CM</sub>	-200		mA
Peak base current	I <sub>BM</sub>	-200		mA
Total power dissipation	P <sub>tot</sub>	200		mW
Junction temperature	T <sub>j</sub>	150		°C
Storage temperature	T <sub>stg</sub>	-65 to +150		°C
Operating ambient temperature	R <sub>amb</sub>	-65 to +150		°C
Thermal resistance from junction to ambient	R <sub>th j-a</sub>	625		K/W

## BC859W, BC860W

### ■ Electrical Characteristics Ta = 25°C

Parameter		Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current		ICBO	IE = 0; VCB = -30 V			-15	nA
		ICBO	IE = 0; VCB = -30 V; Tj = 150 °C			-4	μA
Emitter cutoff current		IEBO	IC = 0; VEB = -5 V			-100	nA
DC current gain	BC859W; BC860W	hFE	IC = -2 mA; VCE = -5 V;	220		800	
	BC859BW; BC860BW			220		475	
	BC859CW; BC860CW			420		800	
Collector-emitter saturation voltage		VCE(sat)	IC = -10 mA; IB = -0.5 mA			-300	mV
			IC = -100 mA; IB = -5 mA;			-650	mV
Base-emitter voltage *2		VBE	IC = -2 mA; VCE = -5 V	600		750	mV
			IC = -10 mA; VCE = -5 V			820	mV
Collector capacitance		Cc	IE = ie = 0; VCB = -10 V; f = 1 MHz			5	pF
Emitter capacitance		Ce	IC = ic = 0; VEB = -500 mV; f = 1 MHz		10		pF
Transition frequency		fT	IC = -10 mA; VCE = -5 V; f = 100 MHz	100			MHz
Noise figure	BC859W; BC860W; BC859BW; BC860BW; BC859CW; BC860CW	NF	IC = -200 μA; VCE = -5 V; Rs = 2 kΩ; f = 10 Hz to 15.7 kHz			4	dB
			IC = -200 μA; VCE = -5 V; Rs = 2 kΩ; f = 1 kHz; B = 200 Hz			4	

\*1. VBEsat decreases by about -1.7 mV/K with increasing temperature.

\*2. VBE decreases by about -2 mV/K with increasing temperature.

### ■ hFE Classification

TYPE	BC859W	BC859BW	BC859CW
Marking	4D	4B	4C

TYPE	BC860W	BC860BW	BC860CW
Marking	4H	4F	4G