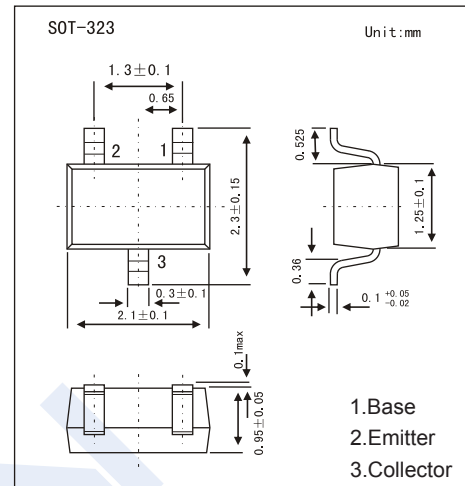
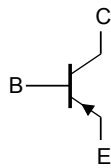


## PNP Transistors BC859W,BC860W (KC859W,KC860W)

### ■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).
- Complements to BC849W and BC850W.



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-30	V
		-50	
Collector - Emitter Voltage	$V_{CE0}$	-30	
		-45	
Emitter - Base Voltage	$V_{EB0}$	-5	
Collector Current - Continuous	$I_C$	-100	mA
Collector Current - Pulse	$I_{CP}$	-200	
Base Current - Pulse	$I_{BP}$	-200	
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-65 to 150	

## PNP Transistors BC859W, BC860W (KC859W, KC860W)

### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

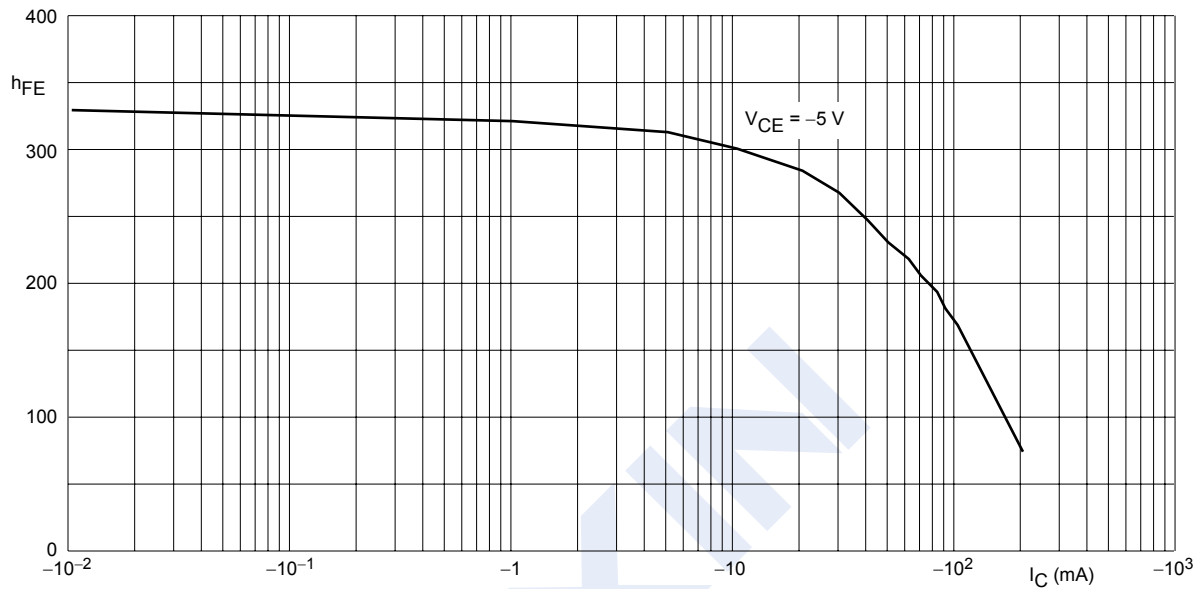
Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BC859W	$V_{CBO}$	$I_C = -100 \mu\text{A}, I_E = 0$	-30			V
	BC860W			-50			
Collector- emitter breakdown voltage	BC859W	$V_{CEO}$	$I_C = -1 \text{ mA}, I_B = 0$	-30			V
	BC860W			-45			
Emitter - base breakdown voltage		$V_{EBO}$	$I_E = -100 \mu\text{A}, I_C = 0$	-5			
Collector-base cut-off current	BC859W	$I_{CBO}$	$V_{CB} = -30 \text{ V}, I_E = 0$			-100	nA
	BC859W		$V_{CB} = -30 \text{ V}, I_E = 0, T_J = 25^\circ\text{C}$			-4	$\mu\text{A}$
	BC860W		$V_{CB} = -50 \text{ V}, I_E = 0$			-15	nA
	BC860W		$V_{CB} = -50 \text{ V}, I_E = 0, T_J = 25^\circ\text{C}$			-4	$\mu\text{A}$
Emitter cut-off current		$I_{EBO}$	$V_{EB} = -5 \text{ V}, I_C = 0$			-100	nA
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = -10 \text{ mA}, I_B = -0.5 \text{ mA}$			-0.3	V
			$I_C = -100 \text{ mA}, I_B = -5 \text{ mA}$			-0.65	
Base - emitter saturation voltage		$V_{BE(sat)}$	$I_C = -100 \text{ mA}, I_B = -5 \text{ mA}$			-1.2	
Base - emitter voltage		$V_{BE}$	$V_{CE} = -5 \text{ V}, I_C = -2 \text{ mA}$	0.6		0.75	V
			$V_{CE} = -5 \text{ V}, I_C = -10 \text{ mA}$			0.82	
DC current gain	BCW859W, 860W	$h_{FE}$	$V_{CE} = -5 \text{ V}, I_C = -2 \text{ mA}$	220		800	
	BCW859BW, 860BW			220		475	
	BCW859CW, 860CW			420		800	
Noise Figure	BCW859W, 860W	NF	$I_C = -200 \mu\text{A}; V_{CE} = -5 \text{ V}; R_S = 2 \text{ k}\Omega; f = 10 \text{ Hz to } 15.7 \text{ kHz}$			4	dB
	BCW859BW, 860BW		$I_C = -200 \mu\text{A}; V_{CE} = -5 \text{ V}; R_S = 2 \text{ k}\Omega; f = 1 \text{ kHz}; B = 200 \text{ Hz}$			4	
	BCW859CW, 860CW						
Collector output capacitance		$C_{ob}$	$V_{CB} = -10 \text{ V}, I_E = I_C = 0, f = 1 \text{ MHz}$			5	pF
Emitter output capacitance		$C_e$	$V_{EB} = -0.5 \text{ V}, I_C = I_E = 0, f = 1 \text{ MHz}$		10		
Transition frequency		$f_T$	$V_{CE} = -5 \text{ V}, I_C = -10 \text{ mA}, f = 100 \text{ MHz}$	100			MHz

### ■ CLASSIFICATION OF $h_{FE}$

Type	BC859W	BC859BW	BC859CW	BC860W	BC860BW	BC860CW
Range	220-800	220-475	420-800	220-800	220-475	420-800
Marking	4D*	4B*	4C*	4H*	4F*	4G*

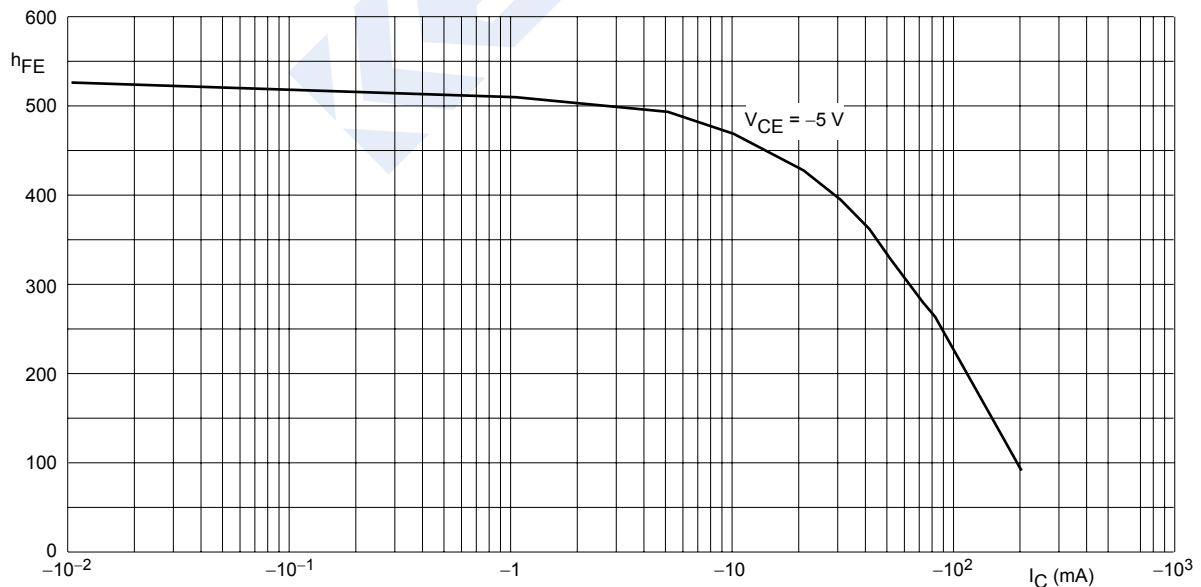
## PNP Transistors BC859W,BC860W (KC859W,KC860W)

### ■ Typical Characteristics



BC859BW; BC860BW.

Fig.1 DC current gain; typical values.



BC859CW; BC860CW.

Fig.2 DC current gain; typical values.