

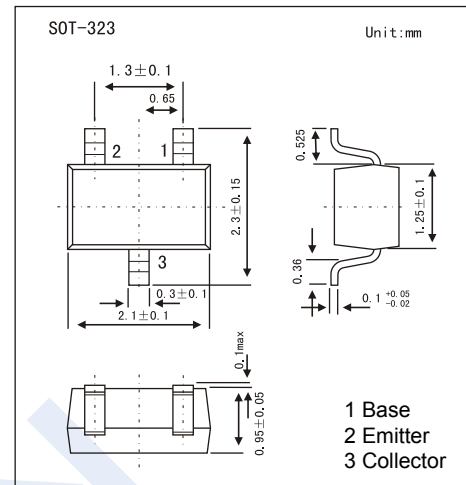
NPN Transistors

BC846W, BC847W, BC848W

(KC846W, KC847W, KC848W)

■ Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	BC846W	80	V
	BC847W	50	
	BC848W	30	
Collector - Emitter Voltage	BC846W	65	V
	BC847W	45	
	BC848W	30	
Emitter - Base Voltage	BC846W	6	V
	BC847W	6	
	BC848W	5	
Collector Current - Continuous	I_c	100	mA
Collector Power Dissipation	P_c	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature range	T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25°C

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BC846W	V _{CB0}	I _c = 100 μA, I _E =0	80			V
	BC847W			50			
	BC848W			30			
Collector- emitter breakdown voltage	BC846W	V _{CE0}	I _c = 10 mA, I _B =0	65			V
	BC847W			45			
	BC848W			30			
Emitter - base breakdown voltage	BC846W	V _{EB0}	I _E = 100 μA, I _c =0	6			V
	BC847W			6			
	BC848W			5			
Collector-base cut-off current	BC846W	I _{CB0}	V _{CB} = 80 V, I _E =0			0.1	μA
	BC847W		V _{CB} = 50 V, I _E =0				
	BC848W		V _{CB} = 30 V, I _E =0				
Emitter cut-off current	BC846W	I _{EB0}	V _{EB} = 6V, I _c =0			0.1	μA
	BC847W		V _{EB} = 6V, I _c =0				
	BC848W		V _{EB} = 5V, I _c =0				
Collector-emitter saturation voltage		V _{CE(sat)}	I _c =10 mA, I _B =0.5mA			0.25	V
			I _c =100 mA, I _B =5mA			0.6	
Base - emitter saturation voltage		V _{BE(sat)}	I _c =10 mA, I _B =0.5mA		0.7		V
			I _c =100 mA, I _B =5mA		0.9		
Base-emitter voltage		V _{BE(on)}	V _{CE} = 5V, I _c = 2mA	0.58		0.7	V
			V _{CE} = 5V, I _c = 10mA			0.77	
DC current gain	BC846AW,847AW,848AW	h _{FE(1)}	V _{CE} = 5V, I _c = 10μA		90		V
	BC846BW,847BW,848BW				150		
	BC847CW,848CW				270		
	BC846AW,847AW,848AW	h _{FE(2)}	V _{CE} = 5V, I _c = 2mA	110		220	
	BC846BW,847BW,848BW			200		450	
	BC847CW,848CW			420		800	
Noise figure	BC846AW,847AW,848AW	NF	V _{CE} =5V,I _c =0.2mA,f=1K Hz, R _s =2 KΩ,BW=200HZ			10	dB
	BC846BW,847BW,848BW					10	
	BC847CW,848CW					4	
Collector output capacitance		C _{ob}	V _{CB} = 10V,f=1MHz			5	pF
Transition frequency		f _T	V _{CE} = 5 V, I _c = 10mA,f=100MHz	100			MHz

■ Classification of h_{FE(2)}

Type	BC846AW	BC846BW	BC847AW	BC847BW	BC847CW	BC848AW	BC848BW	BC848CW
Range	110-220	200-450	110-220	200-450	420-800	110-220	200-450	420-800
Marking	1A	1B	1E	1F	1G	1J	1K	1L