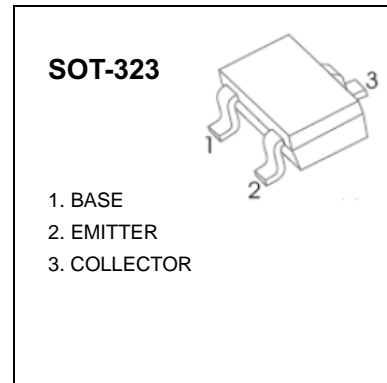


## SOT-323 Plastic-Encapsulate Transistors

**BC846W** TRANSISTOR (NPN)  
**BC847W**  
**BC848W**



### FEATURES

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

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

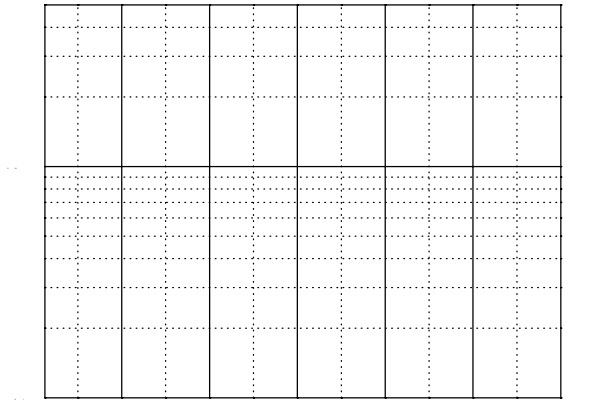
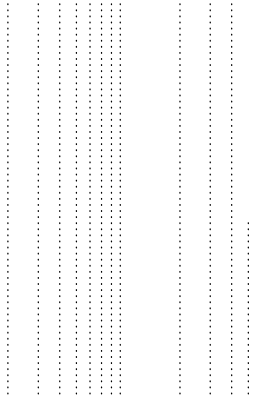
Symbol	Parameter		Value	Unit
<b>V<sub>CBO</sub></b>	Collector-Base Voltage	BC846W	80	V
		BC847W	50	
		BC848W	30	
<b>V<sub>CEO</sub></b>	Collector-Emitter Voltage	BC846W	65	V
		BC847W	45	
		BC848W	30	
<b>V<sub>EBO</sub></b>	Emitter-Base Voltage	BC846W	6	V
		BC847W	6	
		BC848W	5	
<b>I<sub>C</sub></b>	Collector Current –Continuous		0.1	A
<b>P<sub>C</sub></b>	Collector Power Dissipation		150	mW
<b>R<sub>JA</sub></b>	Thermal Resistance From Junction To Ambient		833	°C/W
<b>T<sub>J</sub></b>	Junction Temperature		150	°C
<b>T<sub>stg</sub></b>	Storage Temperature		-55-150	°C

### DEVICE MARKING

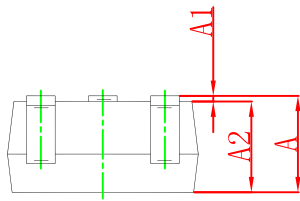
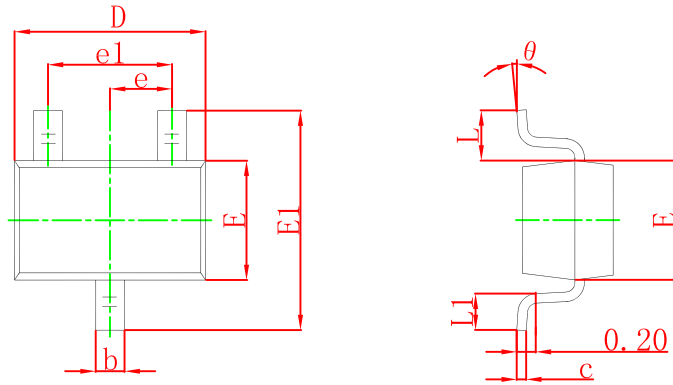
BC846AW=1A; BC846BW=1B;  
 BC847AW=1E; BC847BW=1F; BC847CW=1G;  
 BC848AW=1J; BC848BW=1K; BC848CW=1L

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Collector-base breakdown voltage	BC846W	$V_{CBO}$	$I_C=10\mu A, I_E=0$	80			V
	BC847W			50			
	BC848W			30			
Collector-emitter breakdown voltage	BC846W	$V_{CEO}$	$I_C=10mA, I_B=0$	65			V
	BC847W			45			
	BC848W			30			
Emitter-base breakdown voltage	BC846W	$V_{EBO}$	$I_E=1\mu A, I_C=0$	6			V
	BC847W			6			
	BC848W			5			
Collector Cutoff Current		$I_{CBO}$	$V_{CB}=30V$			15	nA
DC current gain	BC846AW,847AW,848AW	$h_{FE}$	$V_{CE}=5V, I_C=10\mu A$		90		
	BC846BW,847BW,848BW				150		
	BC847CW,BC848CW				270		
	BC846AW,847AW,848AW			110	220		
	BC846BW,847BW,848BW			200	450		
	BC847CW,BC848CW			420	800		
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$			0.25 0.6	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$		0.7 0.9		V
Base-emitter voltage		$V_{BE(on)}$	$V_{CE}=5V, I_C=2mA$ $V_{CE}=5V, I_C=10mA$	580	660	700 770	mV
Transition frequency		$f_T$	$V_{CE}=5V, I_C=10mA$ $f=100MHz$	100			MHz
Collector output capacitance		$C_{ob}$	$V_{CB}=10V, f=1MHz$			4.5	pF
Noise figure	BC846AW,847AW,848AW	NF	$V_{CE}=5V, I_C=0.2mA,$ $f=1KHz, R_S=2K$ $BW=200Hz$			F€	dB
	BC846BW,847BW,848BW					10	
	BC847CW,BC848CW					4	

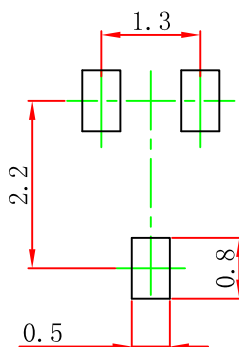


## SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
	0°	8°	0°	8°

## SOT-323 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

## SOT-323 Embossed Carrier Tape

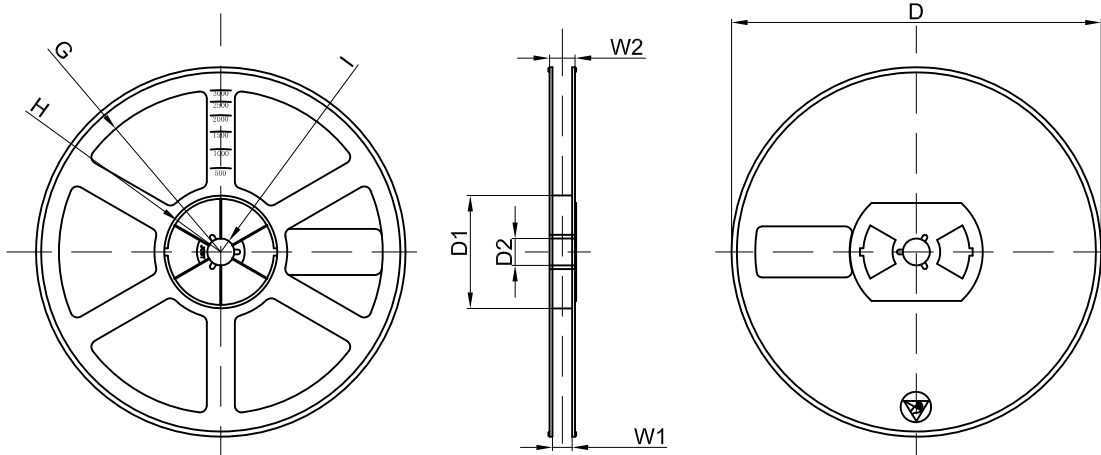
### Packaging Description:

SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-323 Tape Leader and Trailer

### SOT-323 Reel



REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	