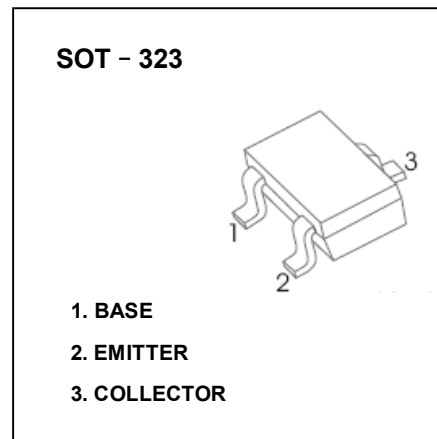


SOT-323 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

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



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BC846W	80
		BC847W	50
		BC848W	30
V_{CEO}	Collector-Emitter Voltage	BC846W	65
		BC847W	45
		BC848W	30
V_{EBO}	Emitter-Base Voltage	BC846W	6
		BC847W	6
		BC848W	5
I_C	Collector Current –Continuous	0.1	A
P_C	Collector Power Dissipation	150	mW
R_{θJA}	Thermal Resistance From Junction To Ambient	833	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

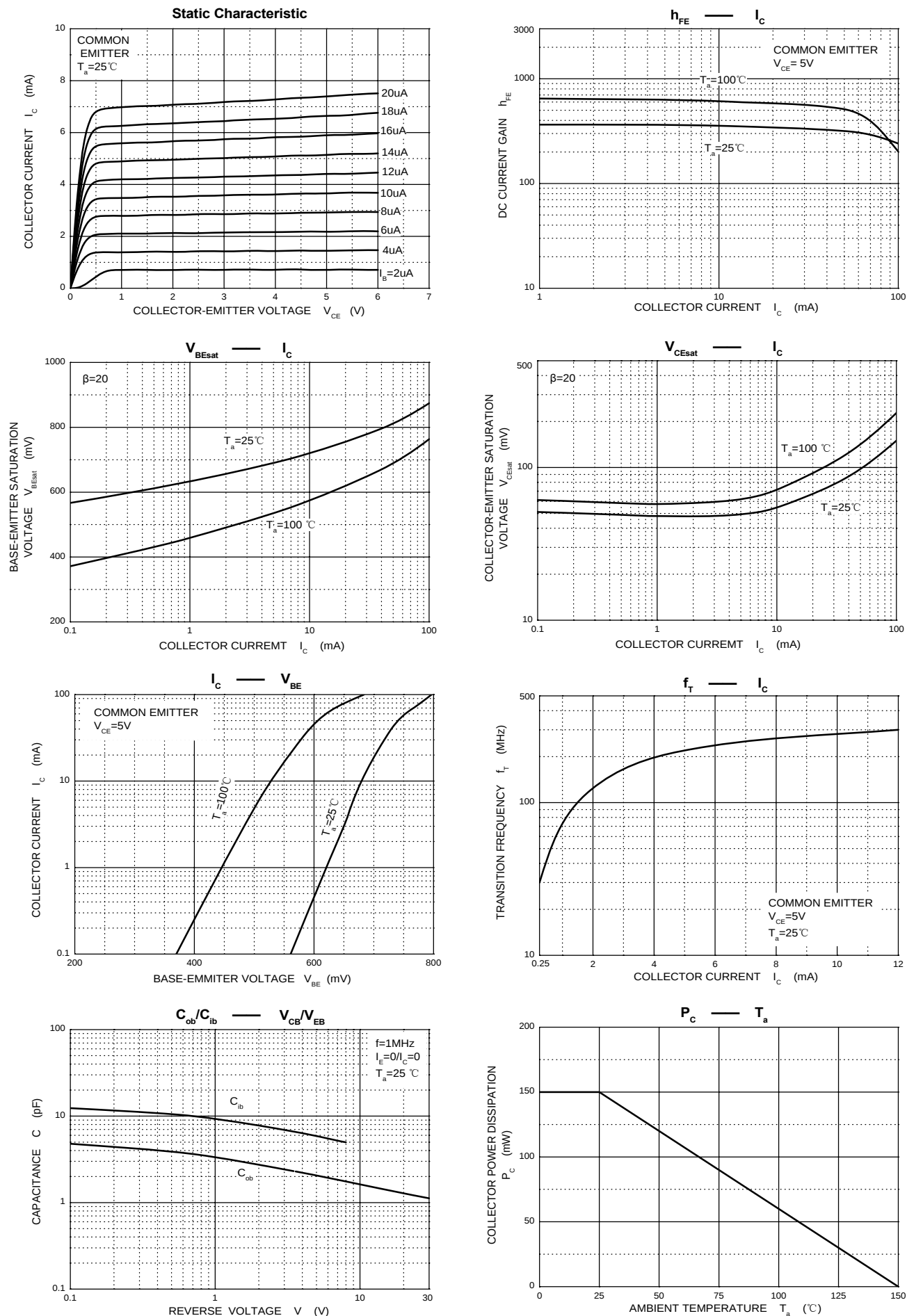
DEVICE MARKING

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

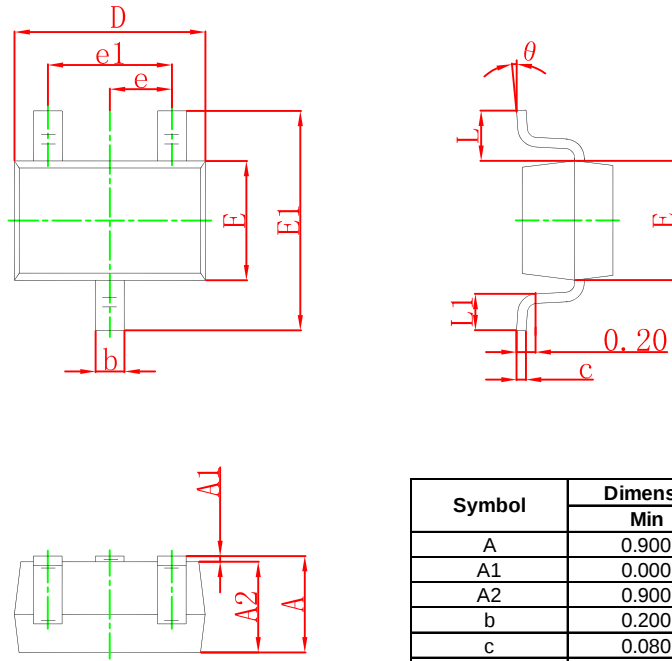
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846W BC847W BC848W	V_{CBO}	$I_C = 10\mu A, I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage	BC846W BC847W BC848W	V_{CEO}	$I_C = 10mA, I_B = 0$	65 45 30		V
Emitter-base breakdown voltage	BC846W BC847W BC848W	V_{EBO}	$I_E = 1\mu A, I_C = 0$	6 6 5		V
Collector Cutoff Current		I_{CBO}	$V_{CB} = 30V$		15	nA
DC current gain	BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW	h_{FE}	$V_{CE} = 5V, I_C = 10\mu A$ $V_{CE} = 5V, I_C = 2mA$	 110 200 420	90 150 270	220 450 800
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 BC846BW,847BW,848BW BC847CW,BC848CW	NF	$V_{CE} = 5V, I_C = 0.2mA,$ $f = 1KHz, R_S = 2K\Omega$ $BW = 200Hz$		10 10 4	dB

Typical Characteristics

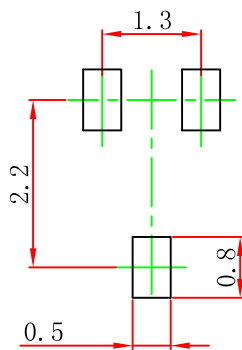


SOT-323 Package Outline Dimensions



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
θ	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



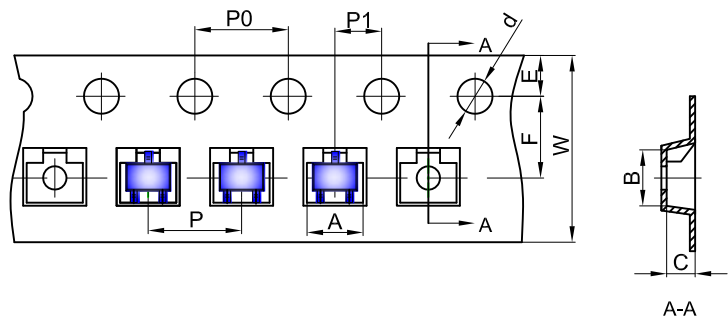
Note:

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

NOTICE

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

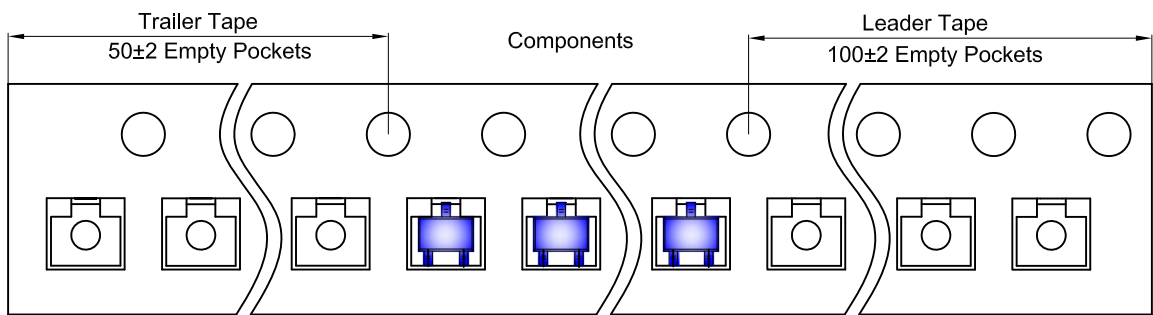
SOT-323 Embossed Carrier Tape



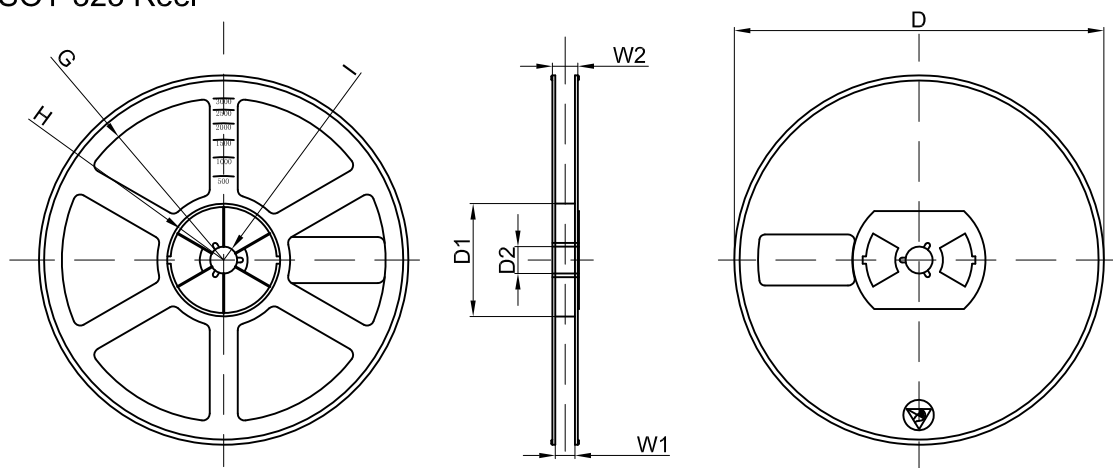
Packaging Description:
SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

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



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

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	