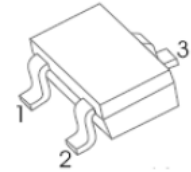


General Purpose Transistors NPN Silicon

FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications
- We declare that the material of product compliance with RoHS requirements.
- AEC-Q101 qualified (Automotive grade with suffix "Q".)

SOT-323

1. BASE
2. EMITTER
3. COLLECTOR

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

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BC846W	80	V
		BC847W	50	
		BC848W	30	
V_{CEO}	Collector-Emitter Voltage	BC846W	65	V
		BC847W	45	
		BC848W	30	
V_{EBO}	Emitter-Base Voltage	BC846W	6	V
		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

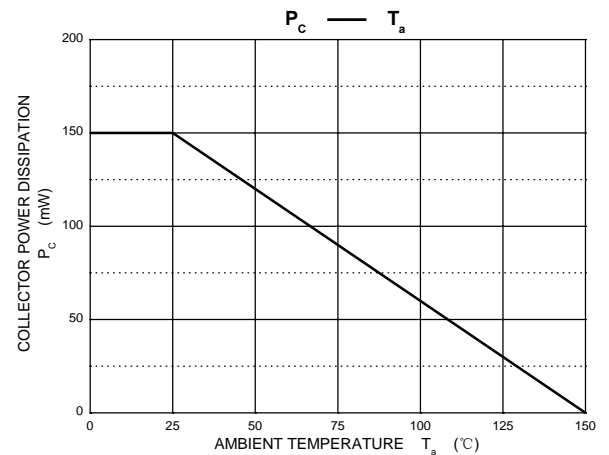
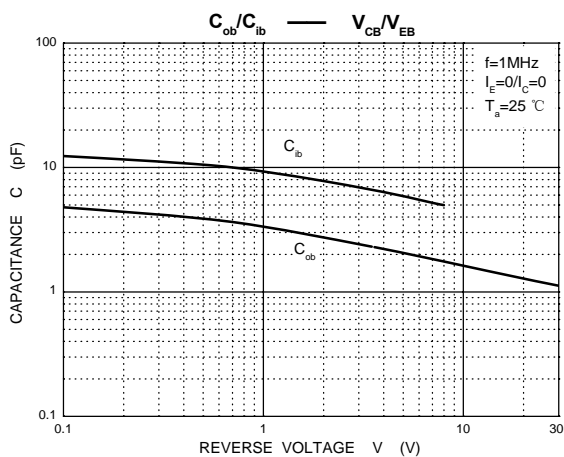
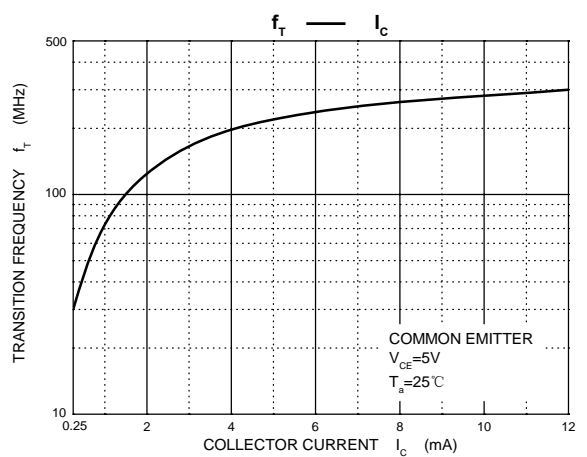
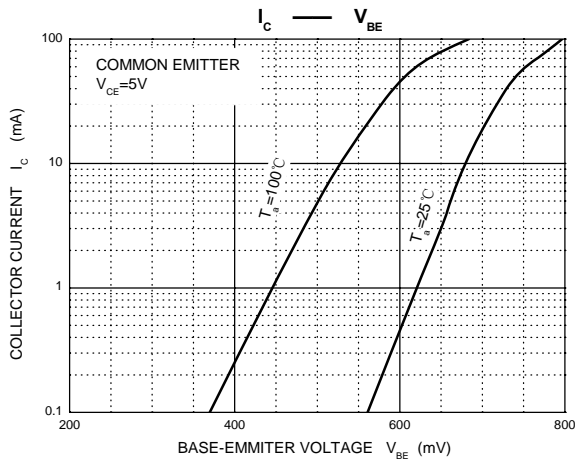
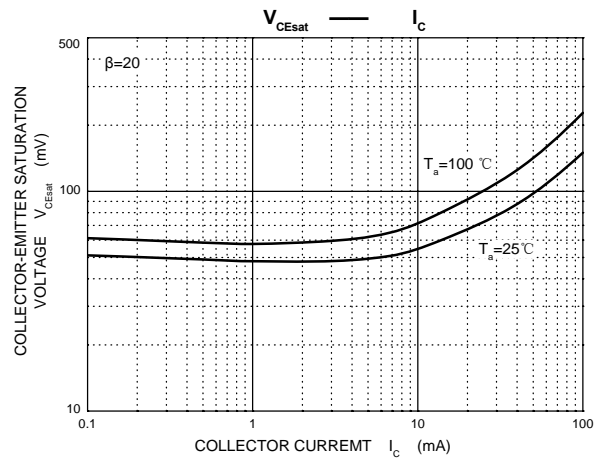
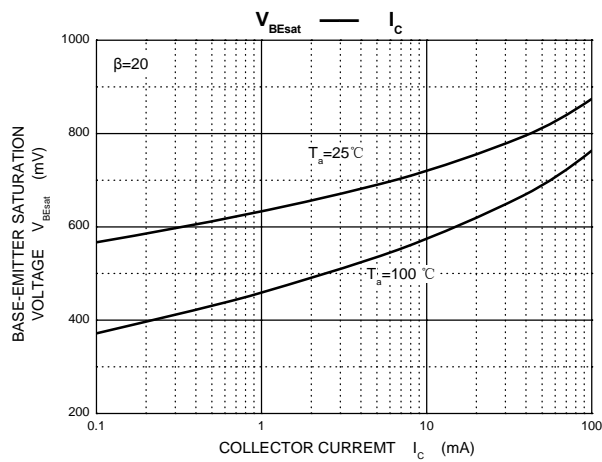
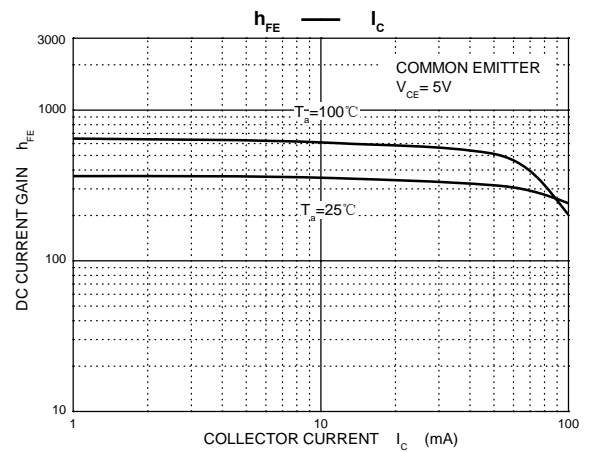
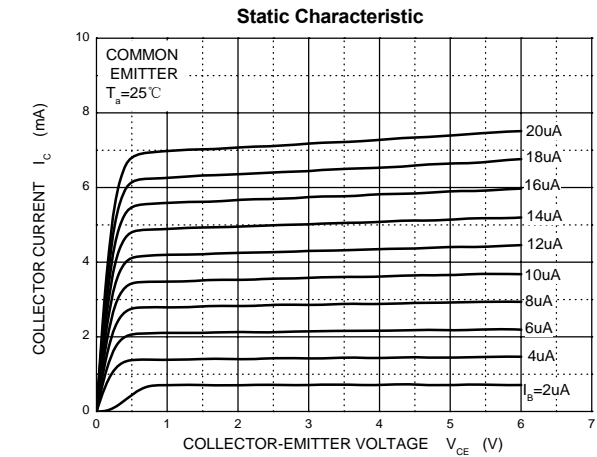
DEVICE MARKING

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

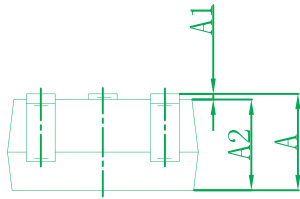
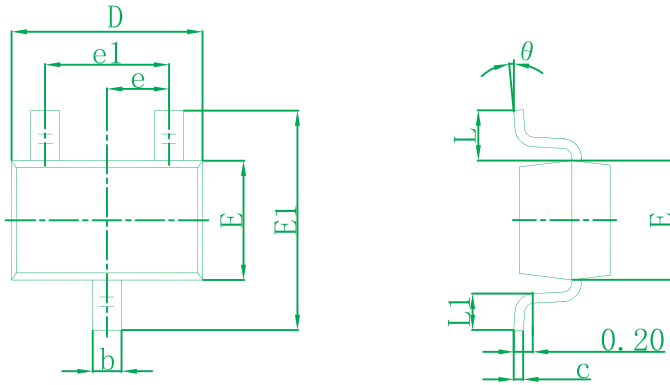
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

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

Typical Characteristics

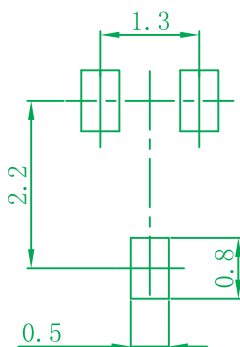


SOT-323 Package Outline Dimensions



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
theta	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



Note:

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

Ordering information

Device	Package	Shipping
BC84XXW	SOT-323	3000/Tape&Reel