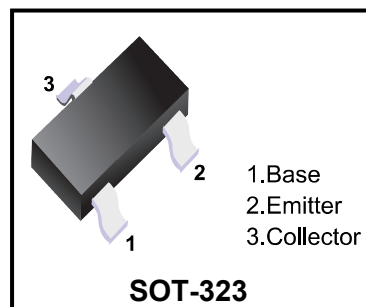


Plastic-Encapsulate Transistors

TRANSISTOR(NPN)

Features

- ◆Complementary to BC856W/BC857W/BC858W
- ◆Power Dissipation of 150mW
- ◆Ideally suited for automatic insertion
- ◆For switching and AF amplifier applications



Mechanical Data

- ◆Small Outline Plastic Package
- ◆Epoxy UL: 94V-0
- ◆Mounting Position: Any

Marking:

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

Maximum Ratings & Thermal Characteristics

(Rat ings at 25°C ambient temperature unless otherwise specified.)

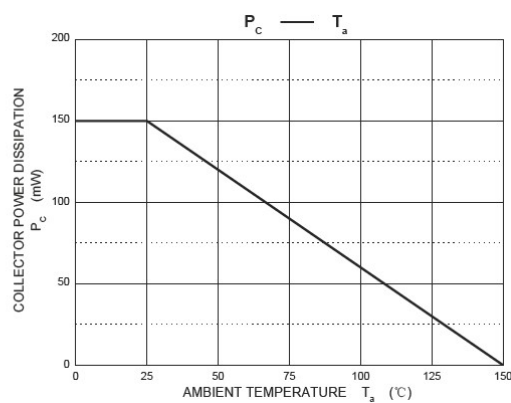
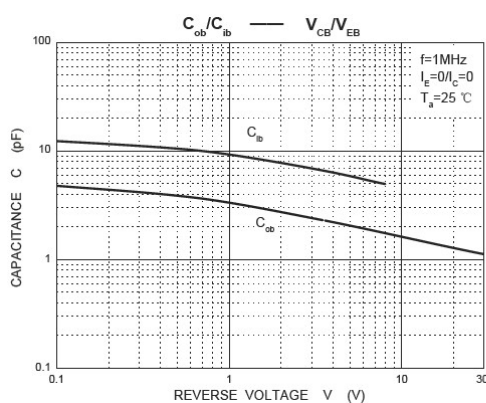
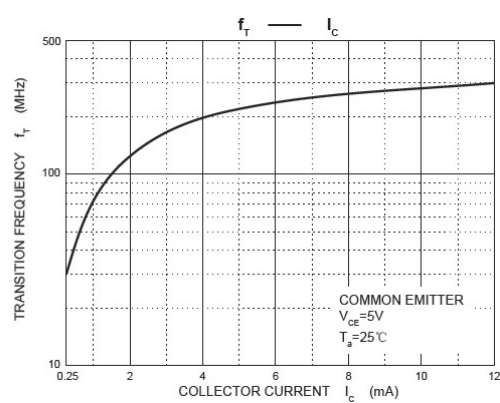
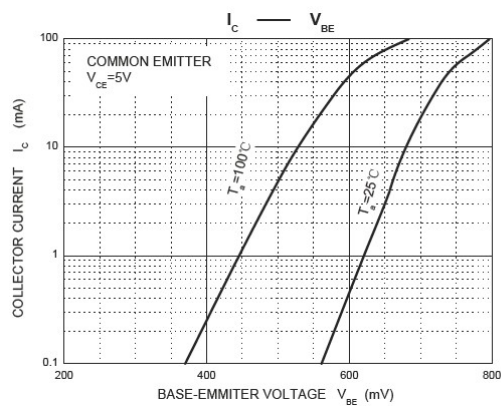
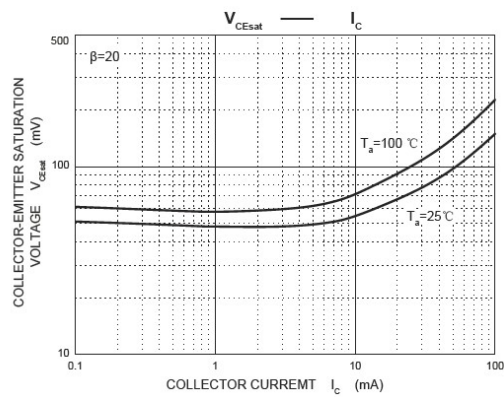
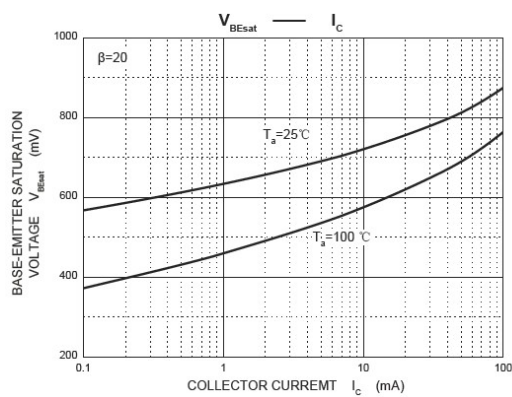
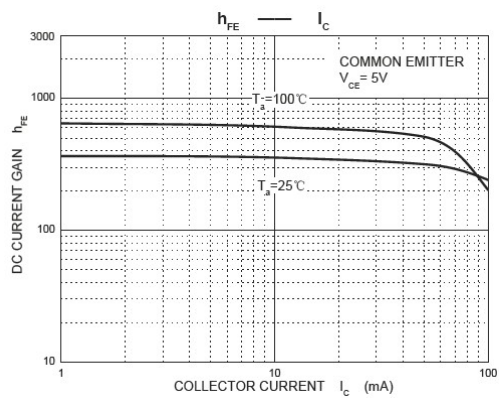
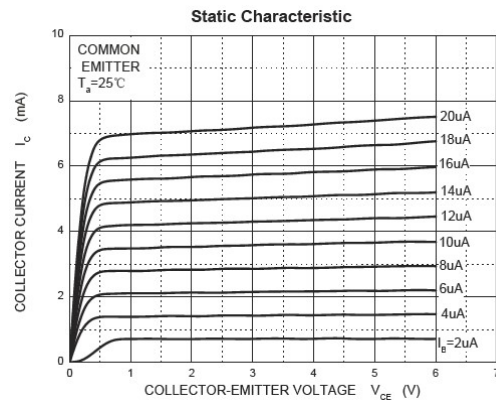
Parameters	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	BC846W 80	V
		BC847W 50	
		BC848W 30	
Collector-Emitter Voltage	V_{CEO}	BC846W 65	V
		BC847W 45	
		BC848W 30	
Emitter -Base Voltage	V_{EBO}	BC846W 6	V
		BC847W 6	
		BC848W 5	
Collector Current-Continuous	I_c	100	mA
Collector Power Dissipation	P_c	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	833	°C/W

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

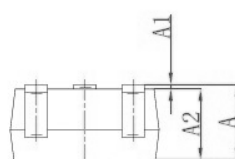
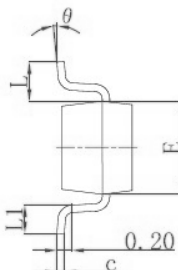
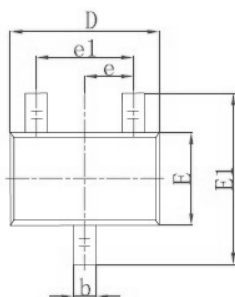
Parameter	Symbols	Test Condition	Limits		Units
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	BC846W $I_C=10\mu A, I_E=0$ BC847W BC848W	80 50 30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	BC846W $I_C=10mA, I_B=0$ BC847W BC848W	65 45 30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	BC846W $I_E=1\mu A, I_C=0$ BC847W BC848W	6 6 5		V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0$		15	nA
DC current gain	h_{FE}	BC846AW;BC847AW;BC848AW $V_{CE}=5V, I_C=2mA$ BC846BW;BC847BW;BC848BW BC847CW;BC848CW	110 200 420	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 0.60	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$		1.10	V
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	NF	$V_{CE}=5V, I_C=0.2mA$, BC846AW;BC847AW;BC848AW $f=1MHz, R_s=2K\Omega$ BC846BW;BC847BW;BC848BW BW=200HZ BC847CW;BC848CW		10 10 4	dB

Typical Characteristics



Package Outline

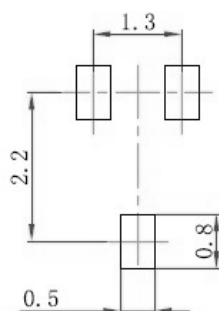
SOT-323



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°

Precautions: PCB Design

Recommended land dimensions for SOT-323 diode. Electrode patterns for PCBs



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

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-323	Tape/Reel, 7" reel	3000	EIA-481-1