

SOT-323 Plastic-Encapsulate Transistor

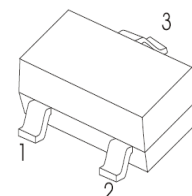
TRANSISTOR (NPN)

BC846AW, BW, CW

BC847AW, BW, CW

BC848AW, BW, CW

SOT-323



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

FEATURES

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

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		V
		BC846W	
		BC847W	
		BC848W	
V_{CEO}	Collector-Emitter Voltage		V
		BC846W	
		BC847W	
		BC848W	
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current –Continuous	0.1	A
P_{C^*}	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65-150	$^{\circ}\text{C}$

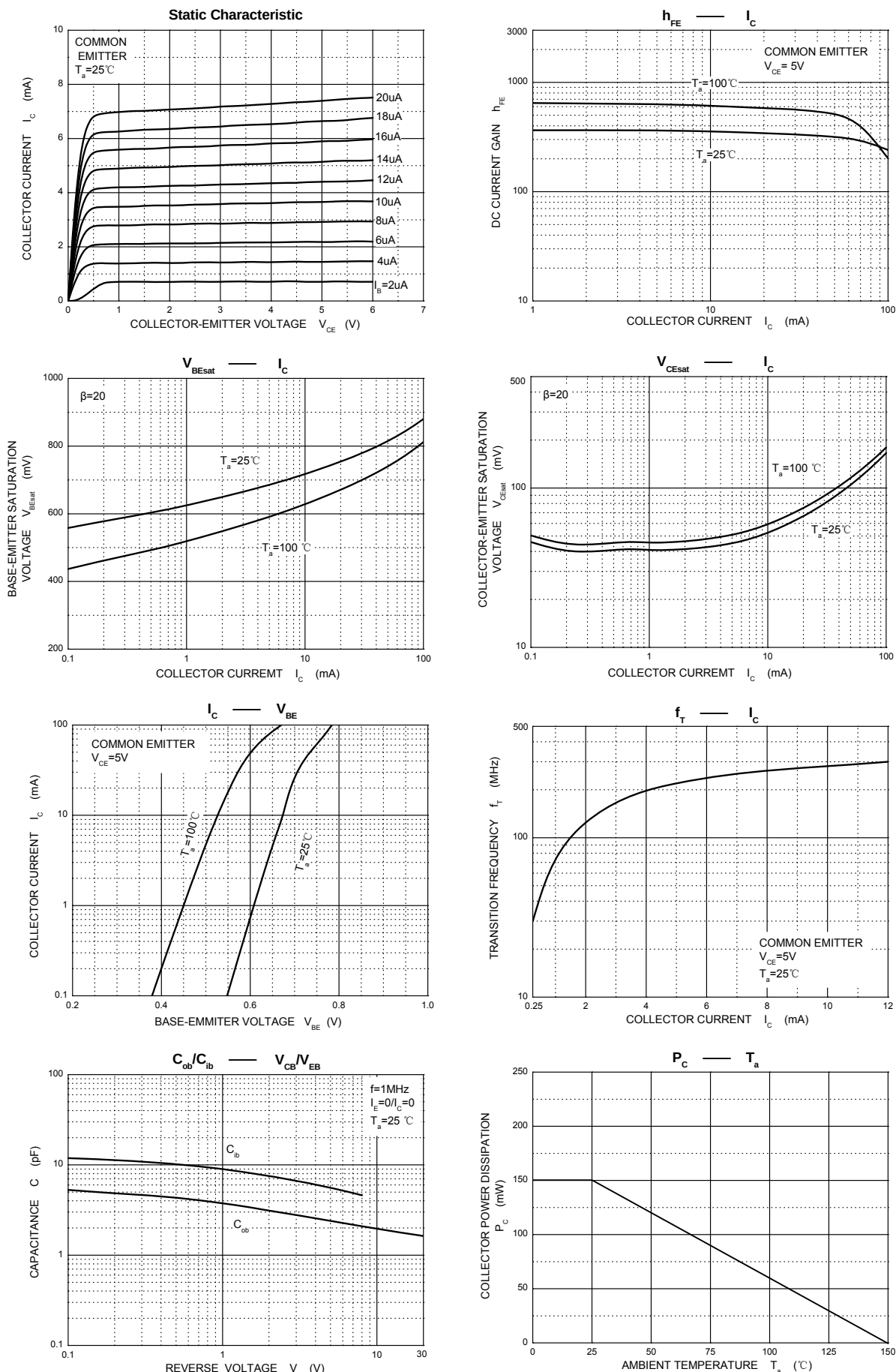
DEVICE MARKING

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)

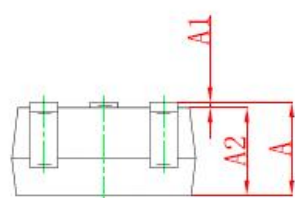
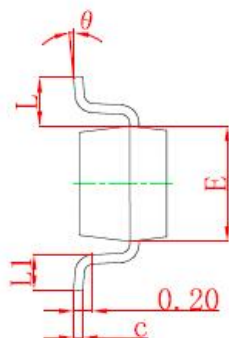
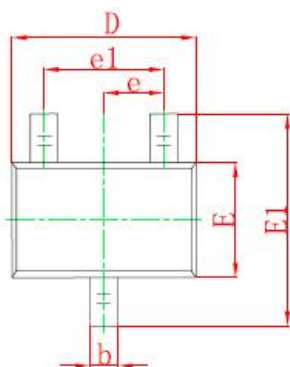
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage BC846W BC847W BC848W	V _{CBO}	I _C = 10μA, I _E =0	80 50 30			V
Collector-emitter breakdown voltage BC846W BC847W BC848W	V _{CEO}	I _C = 10mA, I _B =0	65 45 30			V
Emitter-base breakdown voltage	V _{EBO}	I _E = 10μA, I _C =0	6			V
Collector cut-off current BC846W BC847W BC848W	I _{CBO}	V _{CB} =70 V , I _E =0 V _{CB} =50 V , I _E =0 V _{CB} =30 V , I _E =0			15	nA
Emitter cut-off current	I _{EBO}	V _{EB} =5 V , I _C =0			0.1	uA
DC current gain BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,848CW	h _{FE}	V _{CE} = 5V, I _C = 2mA	110 200 420		220 450 800	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =100mA, I _B = 5mA			0.6	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =100mA, I _B = 5mA			1.1	V
Transition frequency	f _T	V _{CE} = 5 V, I _C = 10mA f=100MHz	100			MHz
Collector output capacitance	C _{ob}	V _{CB} =10V,f=1MHz			4.5	pF

Typical Characteristics



Outlitne Drawing

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°

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