

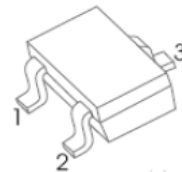


SOT-323 Plastic-Encapsulate Transistor (PNP)

Feature

- Complementary to BC846WQ BC847WQ BC848WQ
- Power Dissipation of 150mW
- AEC-Q101 Qualified
- Ideally Suited for Automatic Insertion
- For Switching and AF Amplifier Applications

SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

Mechanical Data

- SOT-323 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Marking

BC856AWQ	3A
BC856BWQ	3B
BC857AWQ	3E
BC857BWQ	3F
BC857CWQ	3G
BC858AWQ	3J
BC858BWQ	3K
BC858CWQ	3L

Maximum Ratings & Thermal Characteristics (T_A=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	BC856WQ	-80
		BC857WQ	-50
		BC858WQ	-30
V _{CEO}	Collector-Emitter Voltage	BC856WQ	-65
		BC857WQ	-45
		BC858WQ	-30
V _{EBO}	Emitter-Base Voltage	-5	V
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 to +150	°C

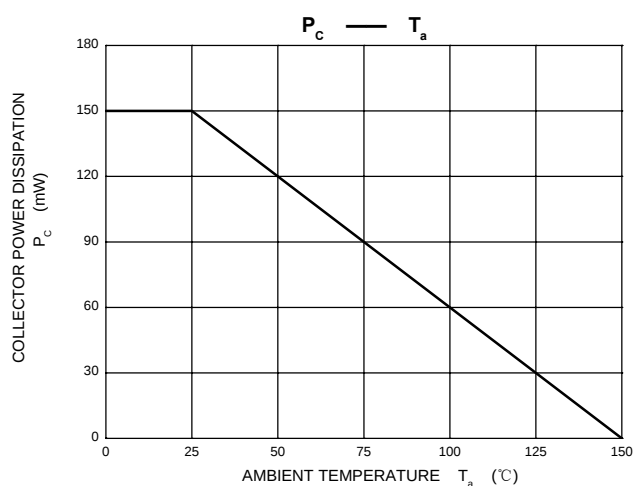
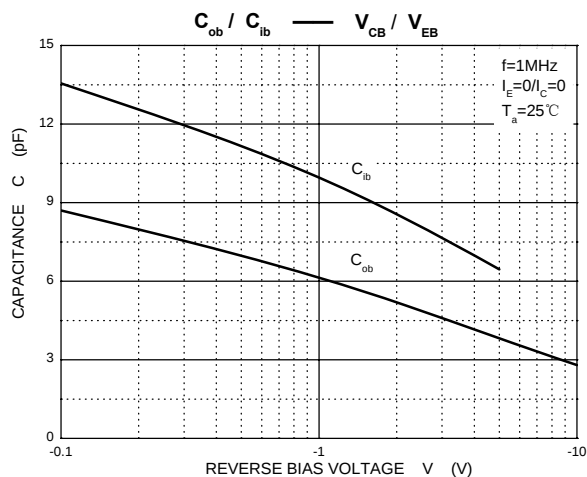
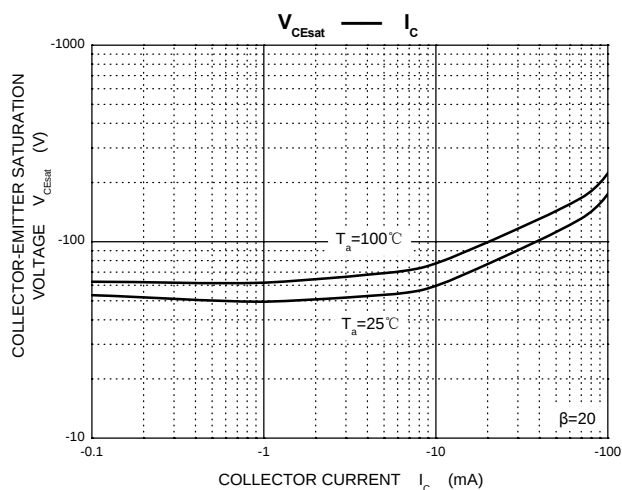
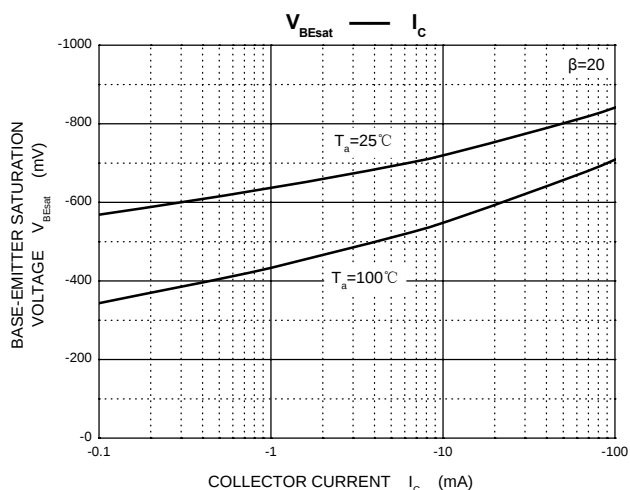
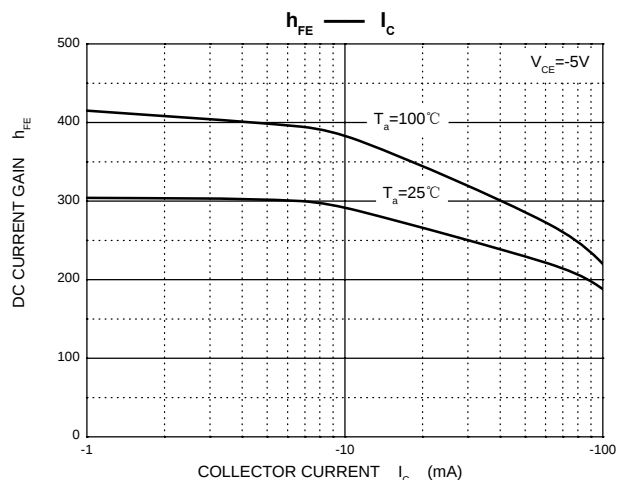
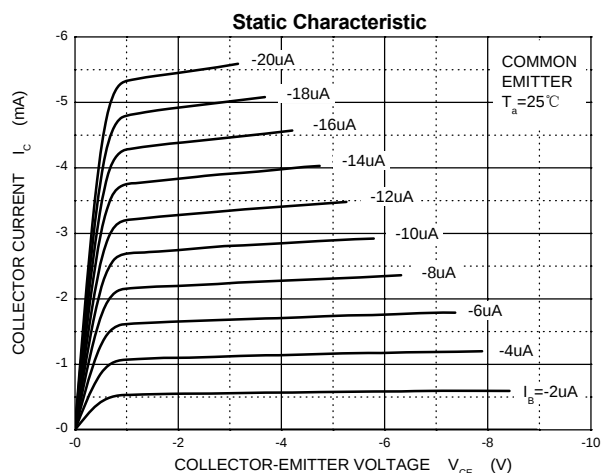


Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC856WQ BC857WQ BC858WQ	V_{CBO}	$I_C = -10\mu\text{A}$, $I_E = 0$	-80 -50 -30		V
Collector-emitter breakdown voltage BC856WQ BC857WQ BC858WQ	V_{CEO}	$I_C = -10\text{mA}$, $I_B = 0$	-65 -45 -30		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = -1\mu\text{A}$, $I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -30\text{V}$, $I_E = 0$		-15	nA
DC current gain BC856AWQ, BC857AWQ, BC858AWQ BC856BWQ, BC857BWQ, BC858BWQ BC857CWQ, BC858CWQ	h_{FE}	$V_{CE} = -5\text{V}$, $I_C = -2\text{mA}$	125 220 420	250 475 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$		-0.65	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$		-1.1	V
Transition frequency	f_T	$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz
Collector capacitance	C_{ob}	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$		4.5	pF

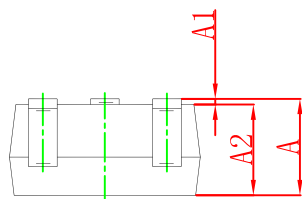
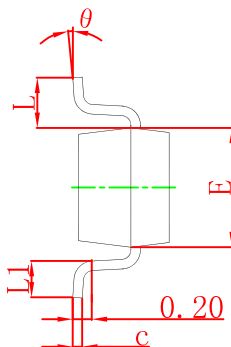
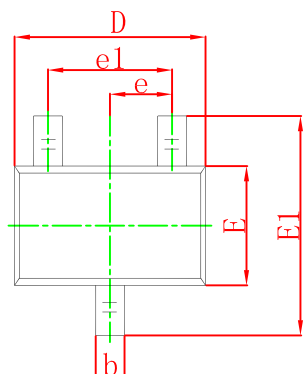


Typical Characteristics



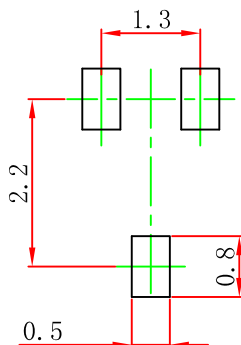


SOT-323 Package Outline Dimensions



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



Notes:

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