BC856W THRU BC858W

PNP TRANSISTORS

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SOT-323 Plastic-Encapsulate Transistors

Features

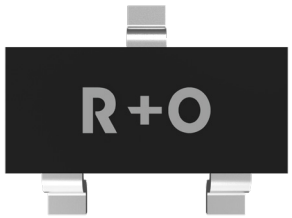
- Complementary to BC846W/BC847W/BC848W
- Power dissipation of 150mW
- High stability and high reliability

Collector-Emitter Voltage
VCEO -65/-45/-30V
Collector Current
-0.1 Ampere

Mechanical Data

- Case: SOT-323
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

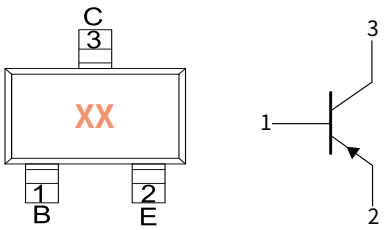
SOT-323



Function Diagram

Device Code=XX
BC856AW=3A BC856BW=3B
BC857AW=3E BC857BW=3F
BC858AW=3J BC858BW=3K

BC857CW=3G
BC858CW=3L



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.005	3000	45000	180000	7''

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL		UNIT	VALUE
Collector-Base Voltage	V_{CBO}	BC856W	V	-80
		BC857W		-50
		BC858W		-30
Collector-Emitter Voltage	V_{CEO}	BC856W	V	-65
		BC857W		-45
		BC858W		-30
Emitter-Base Voltage	V_{EBO}		V	-5
Collector Current	I_C		A	-0.1
Collector Power Dissipation	P_C		mW	150
Storage temperature	T_{stg}		°C	-55 ~+150
Junction temperature	T_j		°C	150
Typical Thermal Resistance	$R_{\theta J-A}$		°C /W	833

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition		Min	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	I_C=-10μA, I_E=0	BC856W	-80	—
				BC857W	-50	—
				BC858W	-30	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		I_C=-10mA, I_E=0	BC856W	-65	—
				BC857W	-45	—
				BC858W	-30	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		I_E=-1μA, I_C=0		-5.0	—
Collector-Base cut-off current	I_{CBO}	μA	V_{CB}=-30V,I_E=0		—	-0.1
DC Current Gain	h_{FE}	—	V_{CE}=-5V,I_C=-2mA	BC856AW,BC857AW,BC858AW	125	250
				BC856BW,BC857BW,BC858BW	220	475
				BC857CW,BC858CW	420	800
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	I_C=-100mA I_B=-5mA		—	-0.65
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	I_C=-100mA I_B=-5mA		—	-1.1
Collector output capacitance	C_{ob}	pF	V_{CB}=-10V, f=1MHz		—	4.5

Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f_T	I_C=-10mA, V_{CE}=-5V,f=100MHz	MHz	100	—

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

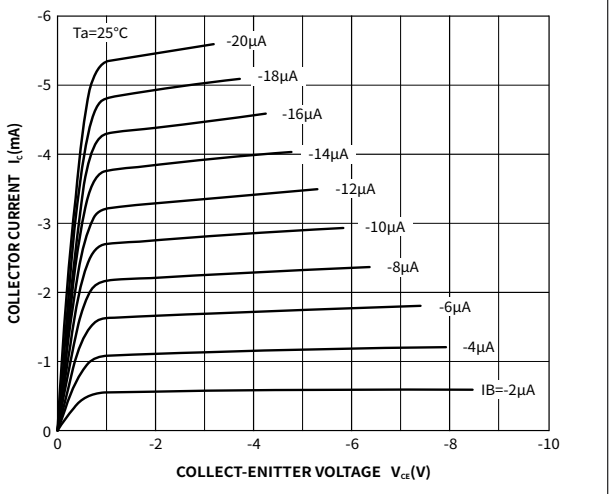


Fig.1 Static Characteristic

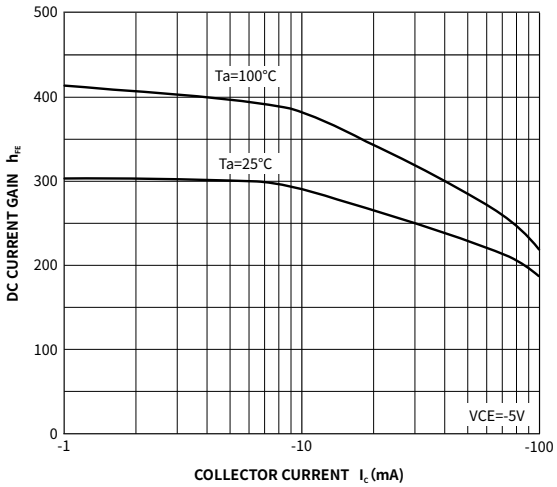


Fig.2 DC Current Gain

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

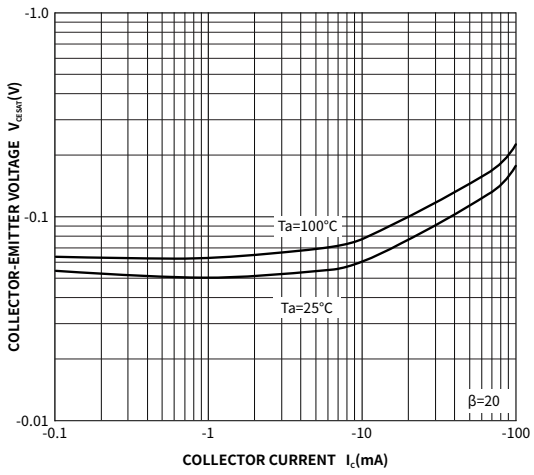


Fig.3 Collector-Emitter Saturation Voltage

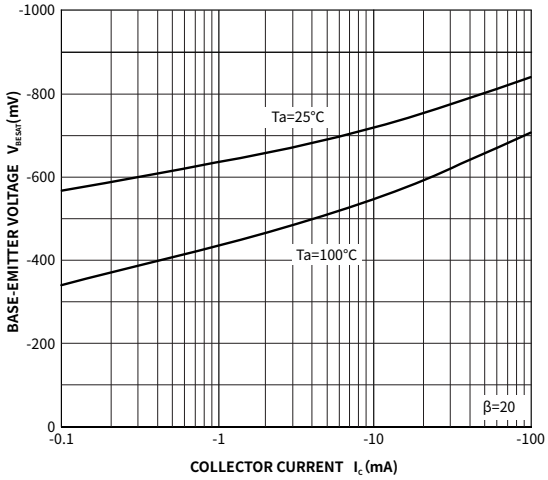


Fig.4 Base-Emitter Saturation Voltage

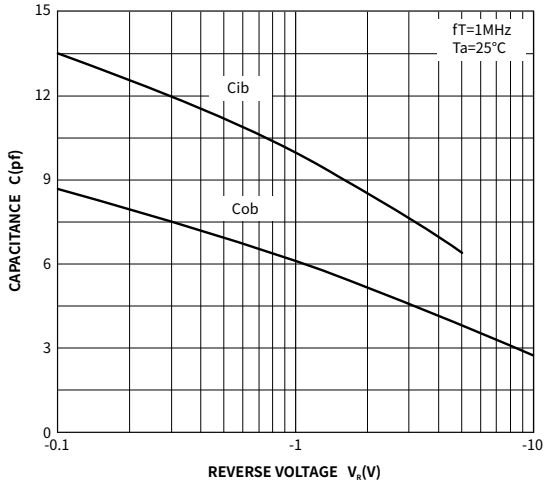


Fig.5 Cob/Cib-$V_{CB}V_{EB}$

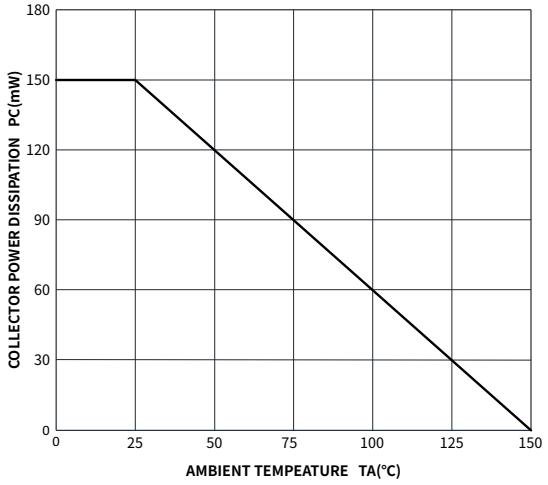
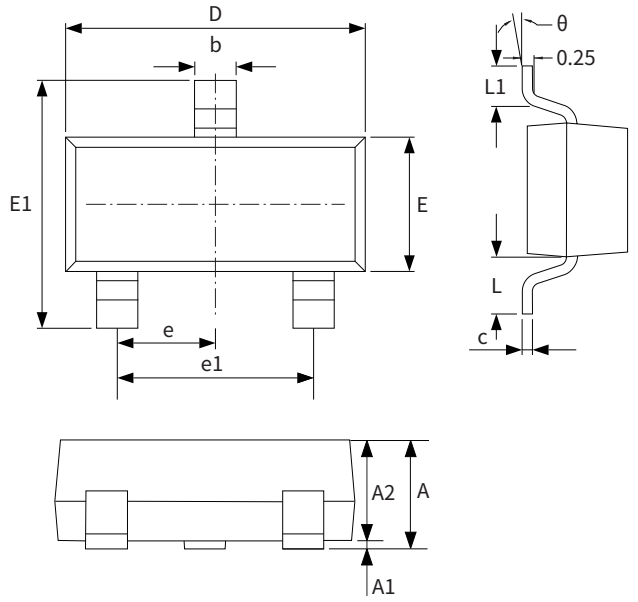


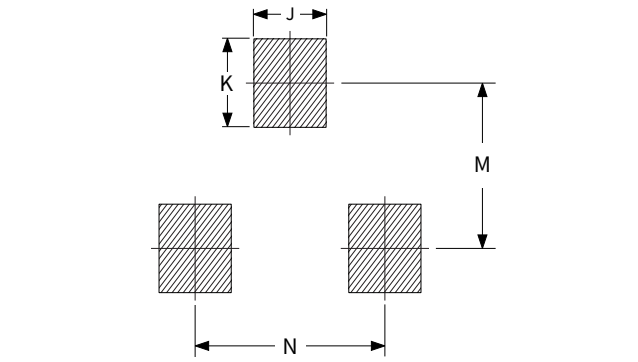
Fig.6 Power Derating Curve

Package Outline Dimensions (SOT-323)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.30	0.40	0.012	0.020
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
E1	2.00	2.2	0.079	0.086
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.15	0.45	0.006	0.018
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.65	0.75	0.026	0.030
K	0.85	0.95	0.033	0.037
M	1.85	1.95	0.073	0.077
N	1.25	1.35	0.049	0.053