

SOT-323 Plastic-Encapsulate Transistors

Features

- Complimentary to BC856W/BC857W/BC858W
- Power dissipation of 150mW
- Ideally suited for automatic insertion

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

Function Diagram

Device Code=XX

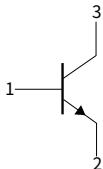
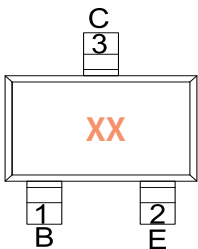
BC846AW=1A BC846BW=1B

BC847AW=1E BC847BW=1F

BC848AW=1J BC848BW=1K

BC847CW=1G

BC848CW=1L



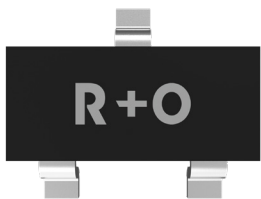
Collector-Emitter Voltage

V_{CEO} 65/45/30V

Collector Current

0.1 Ampere

SOT-323



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}	BC846W	V	80
		BC847W		50
		BC848W		30
Collector-Emitter Voltage	V _{CEO}	BC846W	V	65
		BC847W		45
		BC848W		30
Emitter-Base Voltage	V _{EBO}	BC846W	V	6
		BC847W		6
		BC848W		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 _{θJ-A}		°C /W	833

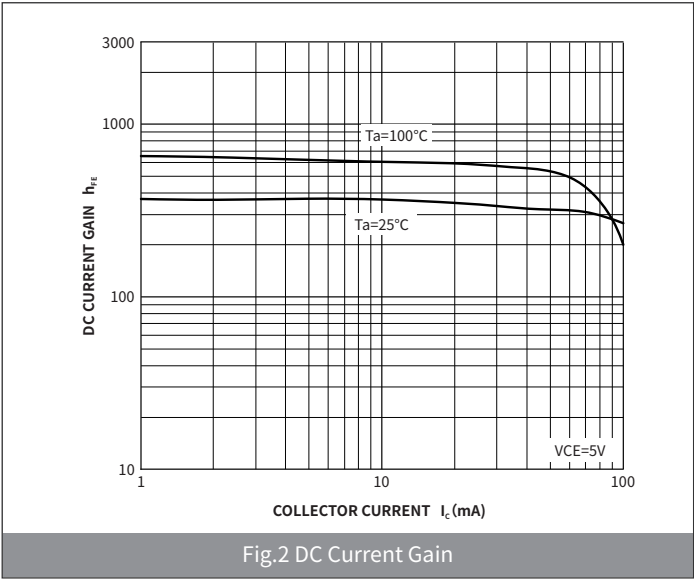
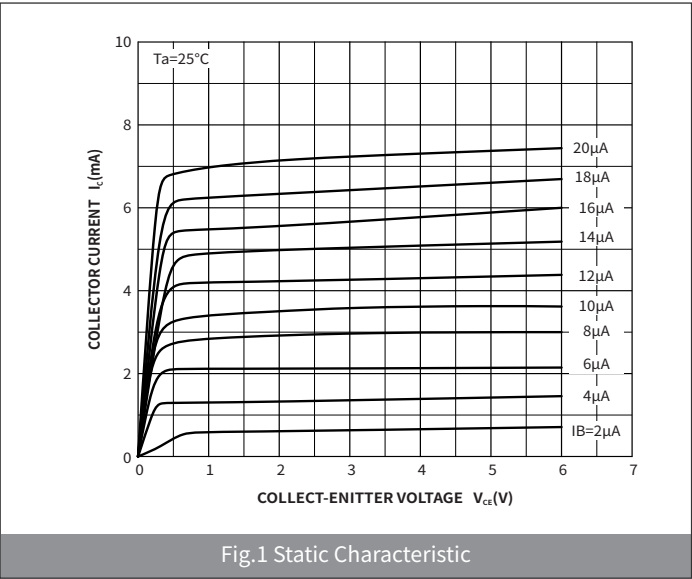
Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition		Min	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=10\mu A, I_E=0$	BC846W	80	—
				BC847W	50	
				BC848W	30	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	V	$I_C=10mA, I_B=0$	BC846W	65	—
				BC847W	45	
				BC848W	30	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	V	$I_E=1\mu A, I_C=0$	BC846W	6	—
				BC847W	6	
				BC848W	5	
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=30V, I_E=0$		—	15
DC Current Gain	h_{FE}	—	$I_C=2mA, V_{CE}=5.0V$	BC846AW;BC847AW;BC848AW	110	220
				BC846BW;BC847BW;BC848BW	200	450
				BC847CW;BC848CW	420	800
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=0.5mA$		—	0.25
			$I_C=100mA, I_B=5mA$		—	0.60
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=100mA, I_B=5mA$		—	1.1
Collector output capacitance	C_{ob}	pF	$V_{CB}=1V, f=1MHz$		—	4.5

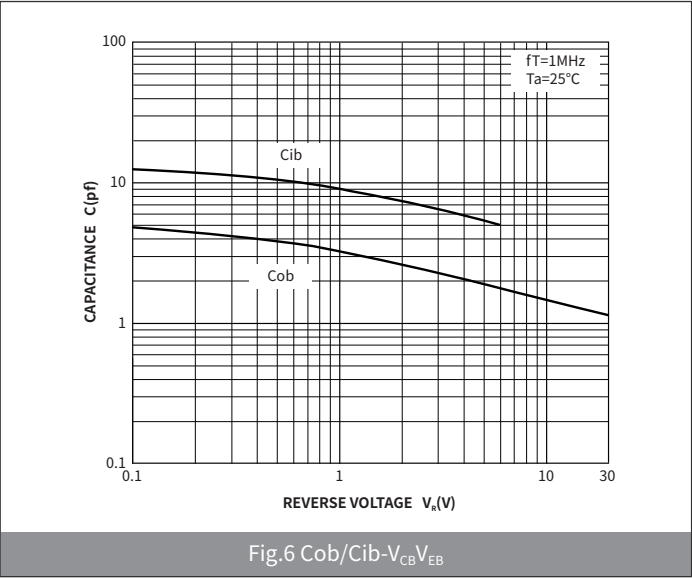
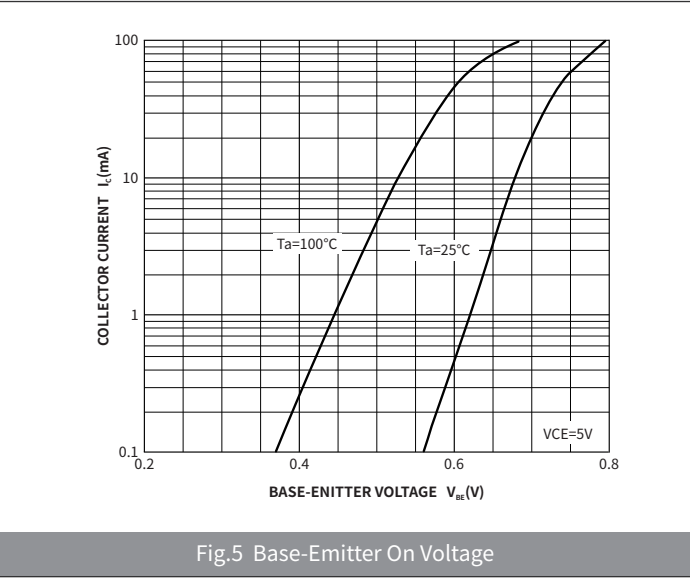
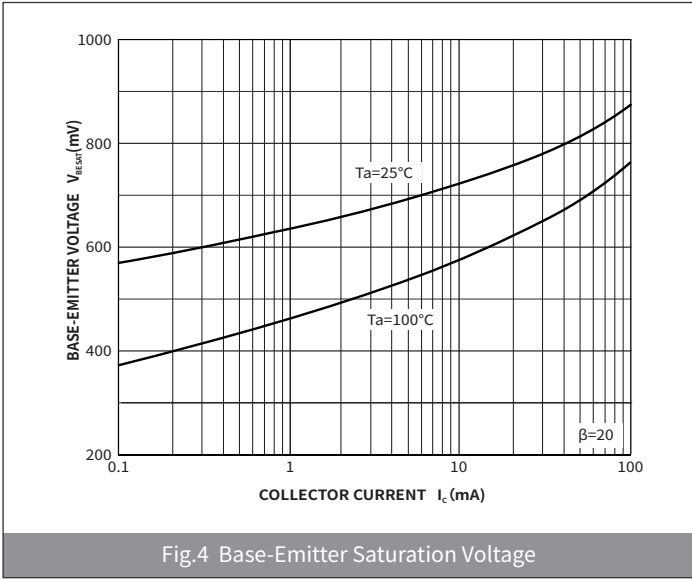
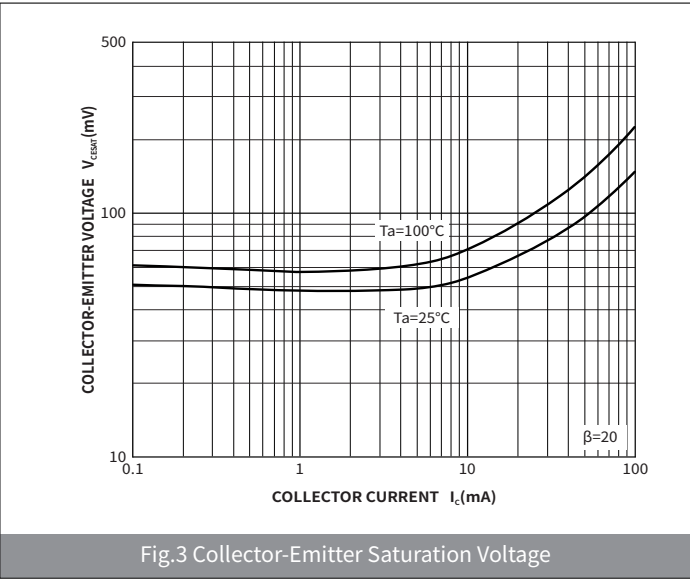
Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	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)



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



● 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