



DESCRIPTION

The BC856W, BC857W and BC858W are available in the SOT-323 package.

ORDERING INFORMATION

Package Type	Part Number
SOT-323	BC856AW
	BC856BW
	BC857AW
	BC857BW
	BC857CW
	BC858AW
	BC858BW
	BC858CW
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter	Value	
V _{CBO} , Collector-Base Voltage	BC856W	-80 V
	BC857W	-50 V
	BC858W	-30 V
V _{CEO} , Collector-Emitter Voltage	BC856W	-65 V
	BC857W	-45 V
	BC858W	-30 V
V _{EBO} , Emitter-Base Voltage	-5 V	
I _C , Collector Current-Continuous	-0.1 A	
P _C , Collector Power Dissipation	150 mW	
T _J , Junction Temperature	150 °C	
T _{stg} , Storage Temperature	-65 ~ +150 °C	

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

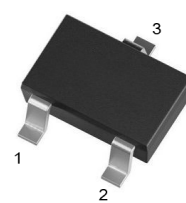
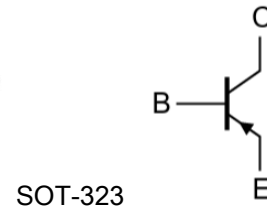
FEATURE

- Low current (max. -100 mA)
- Low voltage (max. -65 V)

APPLICATION

- Ideally suited for automatic insertion.
- For switching and AF amplifier application.

PIN DESCRIPTION



PIN#	DESCRIPTION
1	Base
2	Emitter
3	Collector

**ELECTRICAL CHARACTERISTICS** $T_A=25^{\circ}\text{C}$ unless otherwise specified.

Parameter	Symbol	Condition		Min.	Max.	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = -10\ \mu\text{A}, I_E = 0$	BC856W	-80	-	V
			BC857W	-50	-	
			BS858W	-30	-	
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = -10\ \text{mA}, I_B = 0$	BC856W	-65	-	V
			BC857W	-45	-	
			BS858W	-30	-	
Collector-Base Breakdown Voltage	V_{EBO}	$I_E = -1\ \mu\text{A}, I_C = 0$		-5	-	V
DC Current Gain	h_{FE}	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	BC856AW~BC858AW	125	250	
			BC856BW~BC858BW	220	475	
			BC857CW, BC858CW	420	800	
Collector Cut-off Current	I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0$		-	-15	nA
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = -100\ \text{mA}, I_B = -5\ \text{mA}$		-	-0.65	V
Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C = -100\ \text{mA}, I_B = -5\ \text{mA}$		-	-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

Fig 1. Static Characteristic

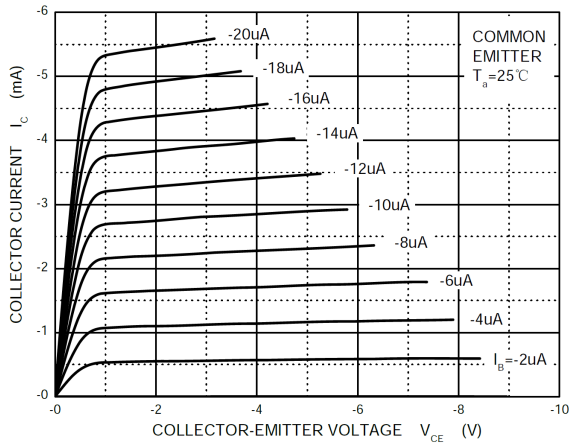


Fig 2. $h_{FE} - I_C$

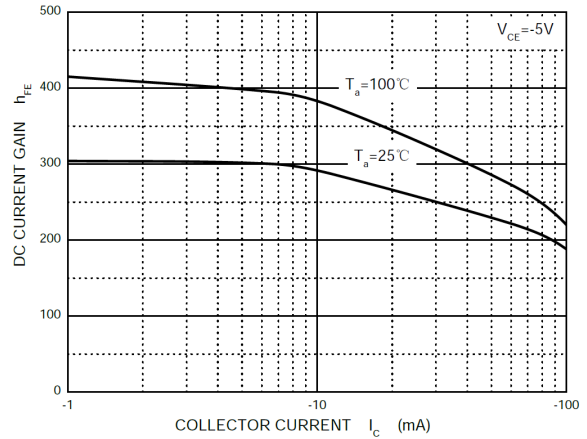


Fig 3. $V_{BE}(\text{sat}) - I_C$

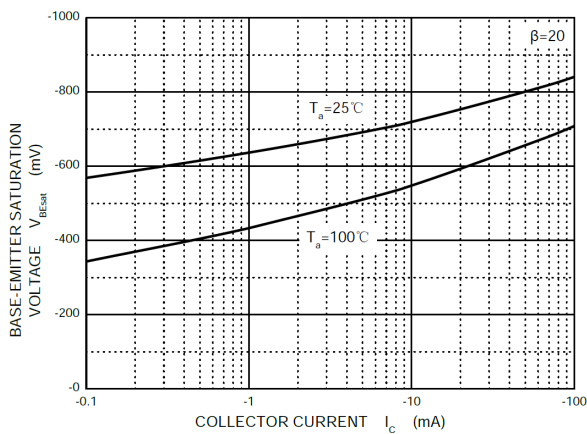


Fig 4. $V_{CE}(\text{sat}) - I_C$

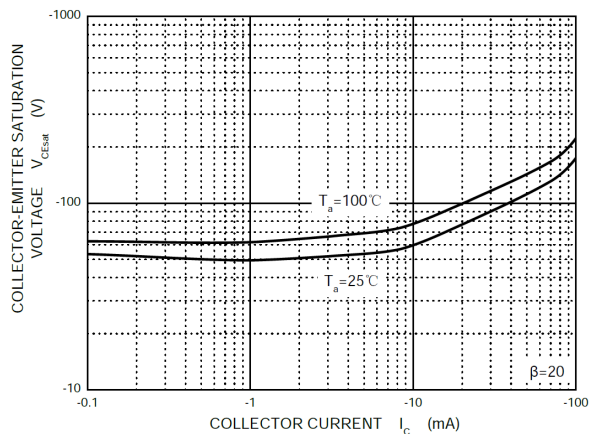


Fig 5. $C_{ob} / C_{ib} - V_{CB} / V_{EB}$

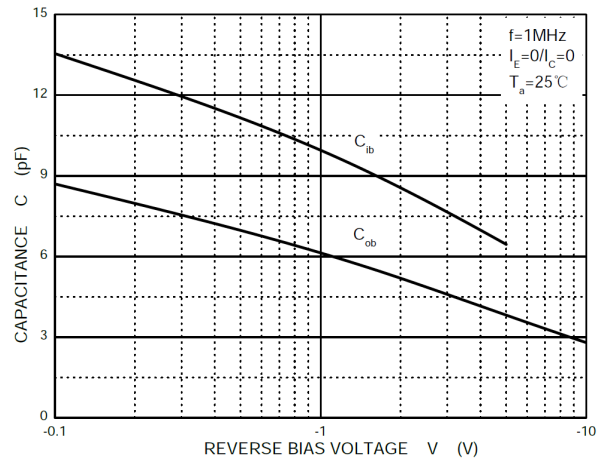
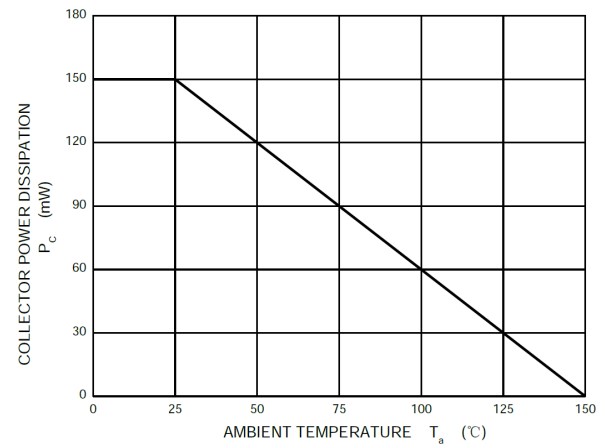


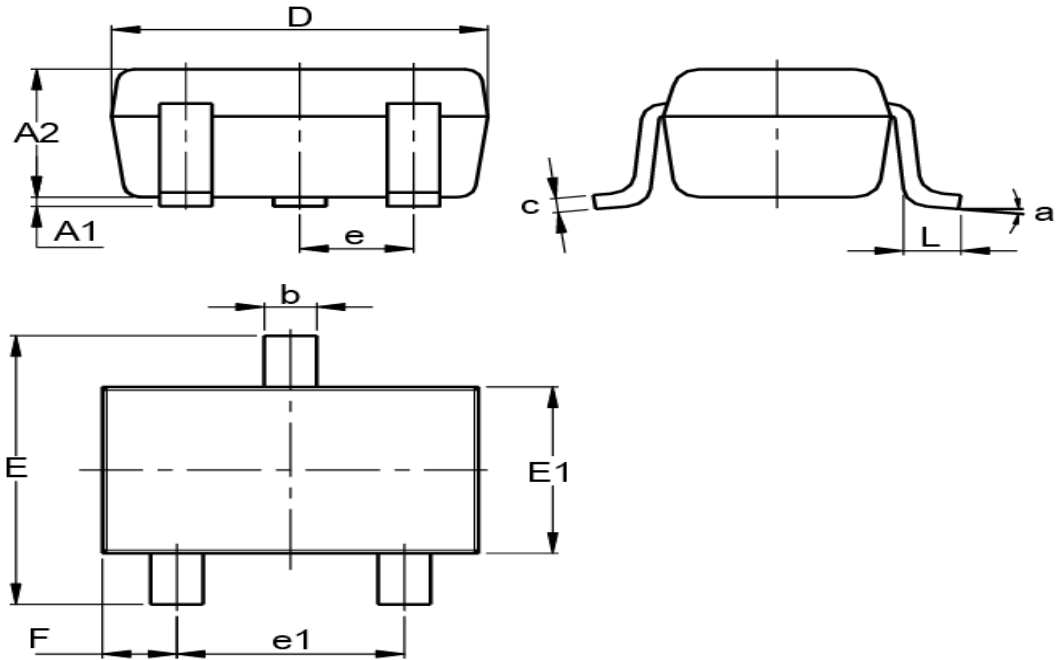
Fig 6. $P_C - T_a$





PACKAGE INFORMATION

Dimension in SOT-323 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A1	0.000	0.100
A2	0.800	1.000
b	0.200	0.400
c	0.080	0.180
D	1.000	2.220
E	2.000	2.450
E1	1.150	1.350
e	0.650 TYP.	
e1	1.200	1.400
F	0.250	0.475
L	0.250	0.460
a	0°	8°

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