



## 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<sub>A</sub> = 25°C, unless otherwise specified.

Parameter	Value	
V <sub>CBO</sub> , Collector-Base Voltage	BC856W	-80 V
	BC857W	-50 V
	BC858W	-30 V
V <sub>CEO</sub> , Collector-Emitter Voltage	BC856W	-65 V
	BC857W	-45 V
	BC858W	-30 V
V <sub>EBO</sub> , Emitter-Base Voltage	-5 V	
I <sub>C</sub> , Collector Current-Continuous	-0.1 A	
P <sub>C</sub> , Collector Power Dissipation	150 mW	
T <sub>J</sub> , Junction Temperature	150 °C	
T <sub>stg</sub> , 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<sub>A</sub>=25°C unless otherwise specified.

Parameter	Symbol	Condition		Min.	Max.	Unit
Collector-Base Breakdown Voltage	V <sub>CBO</sub>	I <sub>C</sub> = -10 μA, I <sub>E</sub> = 0	BC856W	-80	-	V
			BC857W	-50	-	
			BS858W	-30	-	
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> = -10 mA, I <sub>B</sub> = 0	BC856W	-65	-	V
			BC857W	-45	-	
			BS858W	-30	-	
Collector-Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> = -1 μA, I <sub>C</sub> = 0		-5	-	V
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V , I <sub>C</sub> = -2mA	BC856AW~BC858AW	125	250	
			BC856BW~BC858BW	220	475	
			BC857CW, BC858CW	420	800	
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = -30 V, I <sub>E</sub> = 0		-	-15	nA
Collector-Emitter Saturation Voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -5 mA		-	-0.65	V
Base-Emitter Saturation Voltage	V <sub>BE</sub> (sat)	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -5 mA		-	-1.1	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -10 mA, f = 100 MHz		100	-	MHz
Collector Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10 V, f = 1 MHz		-	4.5	pF



**TYPICAL CHARACTERISTICS**

Fig 1. Static Characteristic

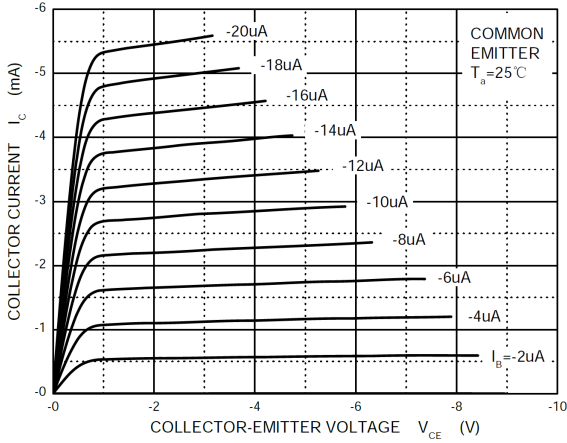


Fig 2.  $h_{FE} - I_c$

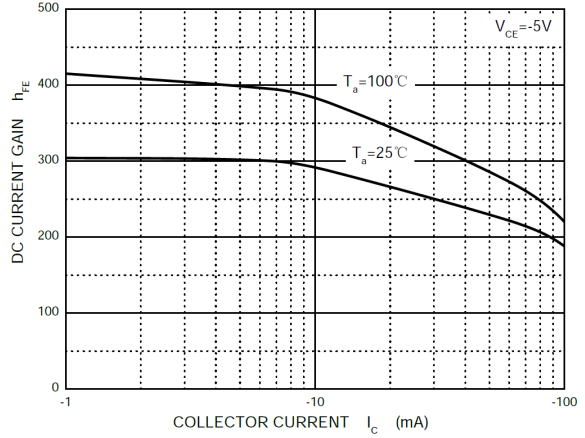


Fig 3.  $V_{BE(sat)} - I_c$

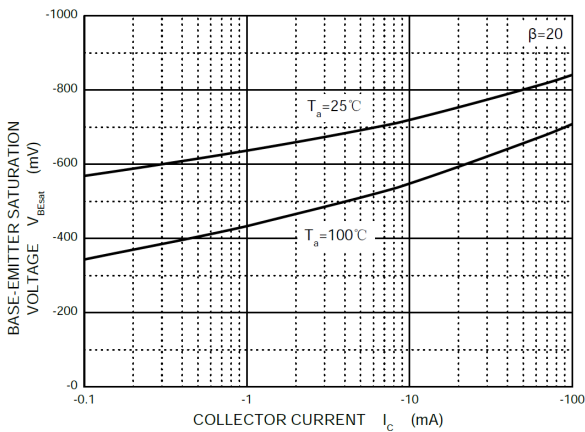


Fig 4.  $V_{CE(sat)} - I_c$

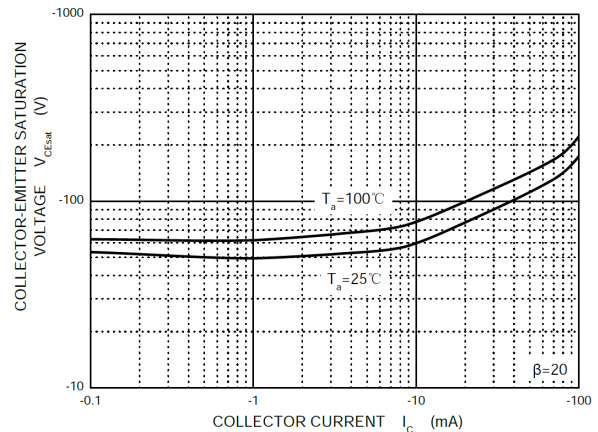


Fig 5.  $C_{ob} / C_{ib} - V_{CB} / V_{EB}$

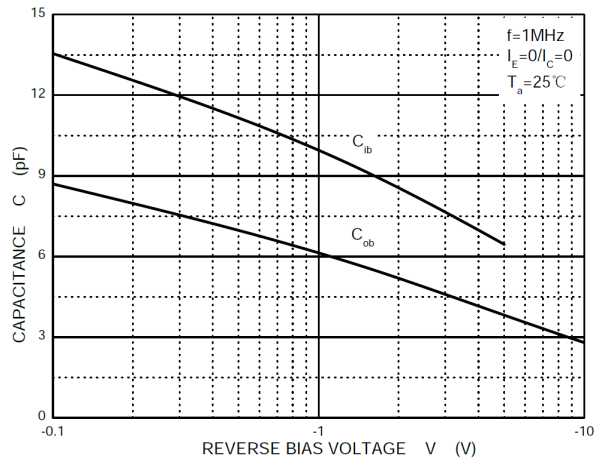
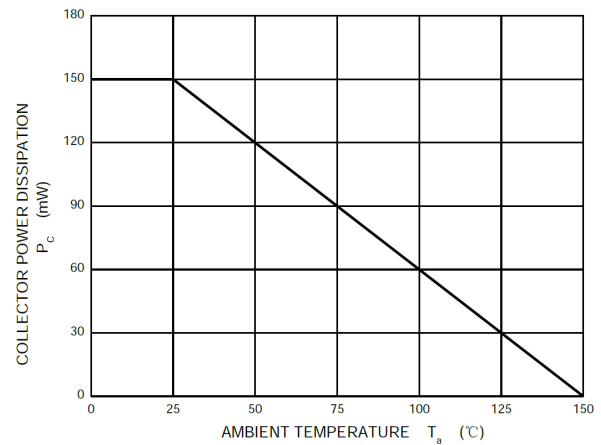


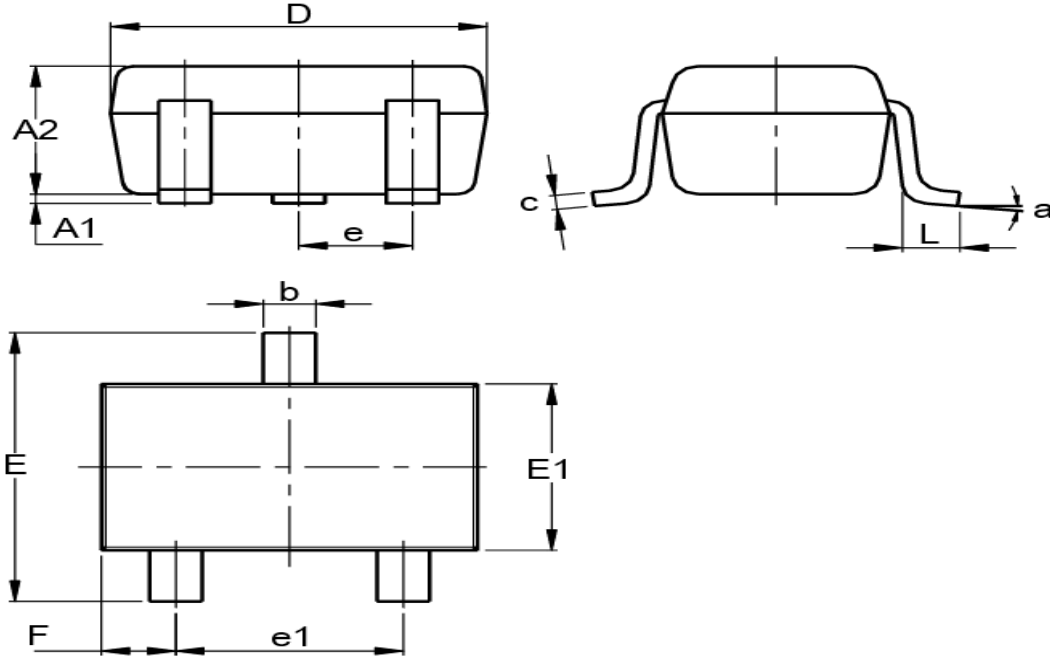
Fig 6.  $P_C - T_a$





**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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