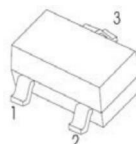


FEATURES

Ideally suited for automatic insertion
For Switching and AF Amplifier Applications



1.BASE
2.EMITTER
3.COLLECTOR

3 x

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

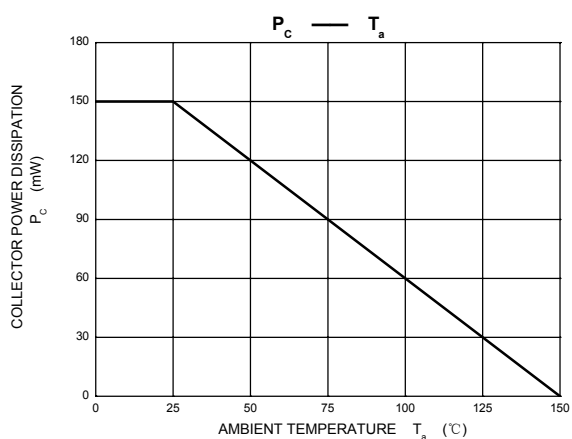
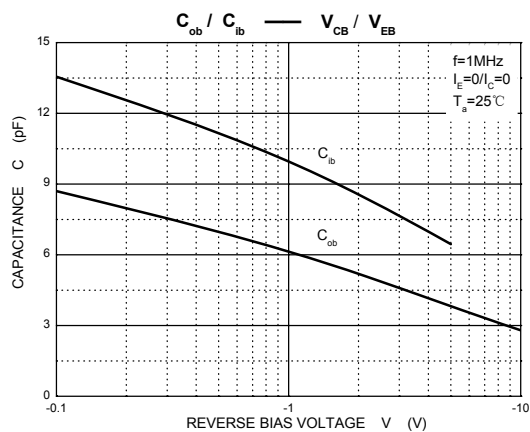
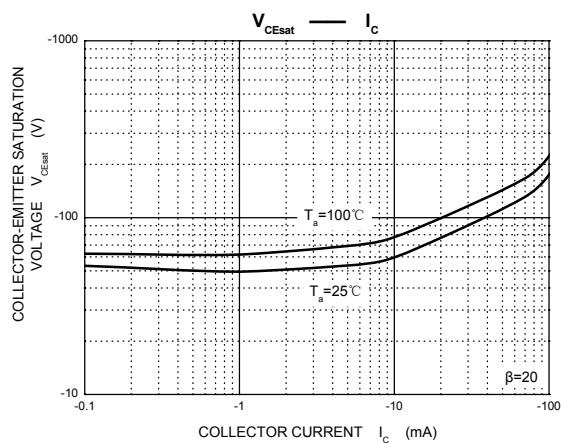
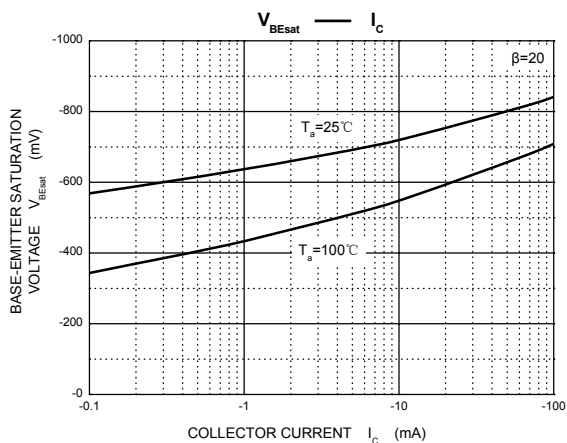
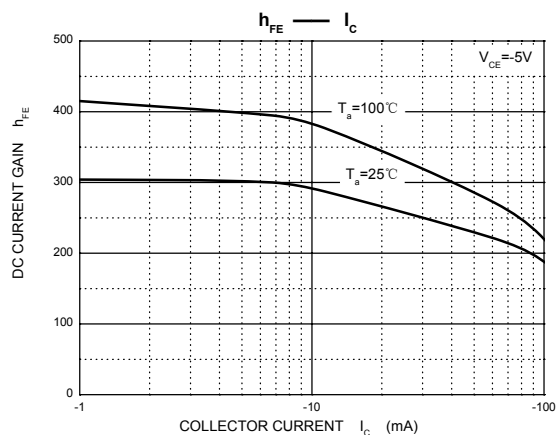
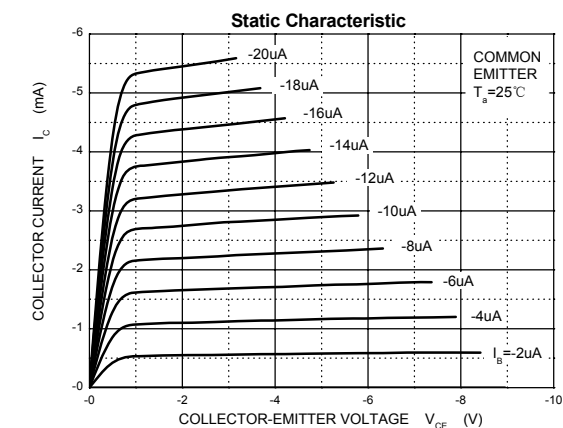
Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		
	BC856W	-80	V
	BC857W	-50	
	BC858W	-30	
V_{CEO}	Collector-Emitter Voltage		
	BC856W	-65	V
	BC857W	-45	
	BC858W	-30	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current –Continuous	-0.1	A
P_{C^*}	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	833	$^{\circ}\text{C}/\text{W}$
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65~+150	$^{\circ}\text{C}$

Electrical Characteristics

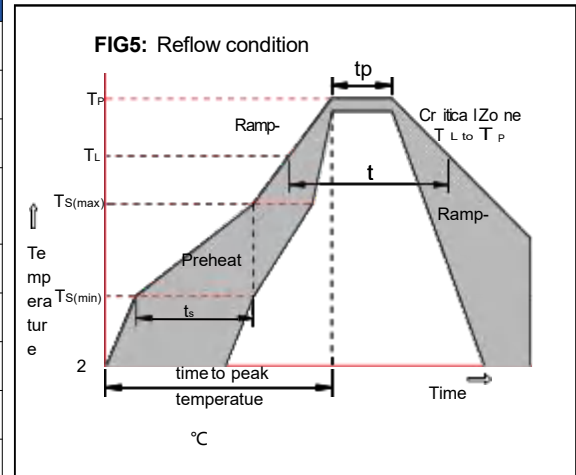
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC856W BC857W BC858W	V_{CBO}	$I_C = -10\mu A, I_E = 0$	-80 -50 -30		V
Collector-emitter breakdown voltage BC856W BC857W BC858W	V_{CEO}	$I_C = -10mA, I_B = 0$	-65 -45 -30		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = -1\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -30V, I_E = 0$		-15	nA
DC current gain BC856AW, 857AW, 858AW BC856BW, 857BW, 858BW BC857CW, BC858CW	h_{FE}	$V_{CE} = -5V, I_C = -2mA$	125 220 420	250 475 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$		-0.65	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -5mA$		-1.1	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -10mA$ $f = 100MHz$	100		MHz
Collector capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		4.5	pF

RATING AND CHARACTERISTIC CURVES



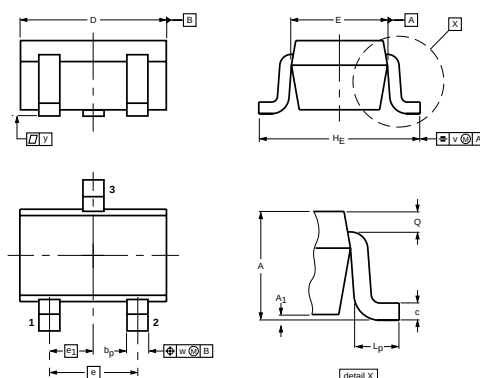
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

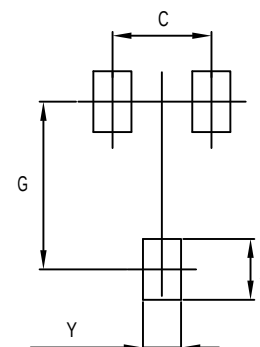
SOT-323



0 1 2 mm
scale

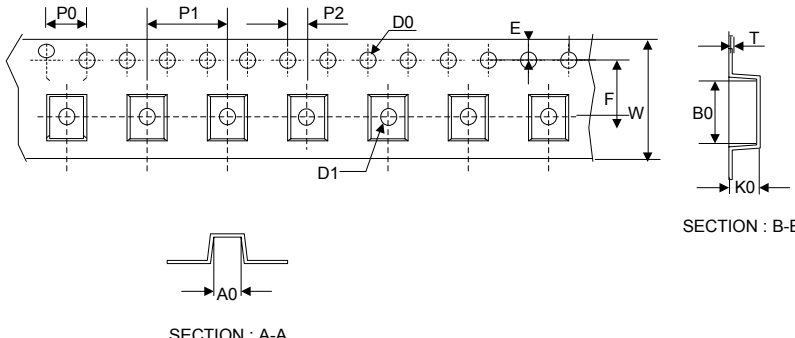
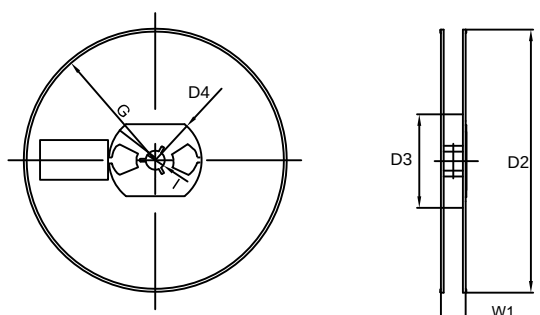
DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2



Dimensions	Value (in mm)
C	1.30
G	2.00
X	0.90
Y	0.65

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	4.00±0.20
		P2	2.00±0.20
		D0	1.55±0.20
		D1	1.00±0.20
		E	1.55±0.25
		F	3.60±0.20
		W	8.00±0.20
		A0	2.50±0.20
		B0	2.60±0.20
		K0	1.40±0.20
		T	0.20±0.20
		D2	177.0±5.0
		D3	55Min.
7" Reel		D4	R24.6±2.0
		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	