



BC856/BC857/BC858 Small Signal PNP Transistor

Rev.1.1

FEATURE:

- Complementary to BC846/BC847/BC848.
- Power dissipation of 200mW.
- Ideally suited for automatic insertion.
- For switching and AF amplifier applications.

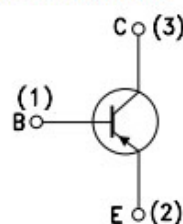
MECHANICAL DATA:

- SOT-23 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any
- Marking:

BC856A=3A	BC856B=3B	
BC857A=3E	BC857B=3F	BC857C=3G
BC858A=3J	BC858B=3K	BC858C=3L



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$, unless otherwise specified.)

Parameter		Symbol	Value	Unit
Storage temperature range		T_{stg}	-55 to 150	$^{\circ}\text{C}$
Max. operating junction temperature		T_j	150	$^{\circ}\text{C}$
Collector-emitter voltage ($I_B=0$)	BC856	V_{CEO}	-65	V
	BC857		-45	
	BC858		-30	
Collector-base voltage ($I_E=0$)	BC856	V_{CBO}	-80	V
	BC857		-50	
	BC858		-30	
Emitter-base voltage ($I_C=0$)		V_{EBO}	-6	V
Collector current		I_C	-100	mA
Collector power dissipation		P_C	200	mW

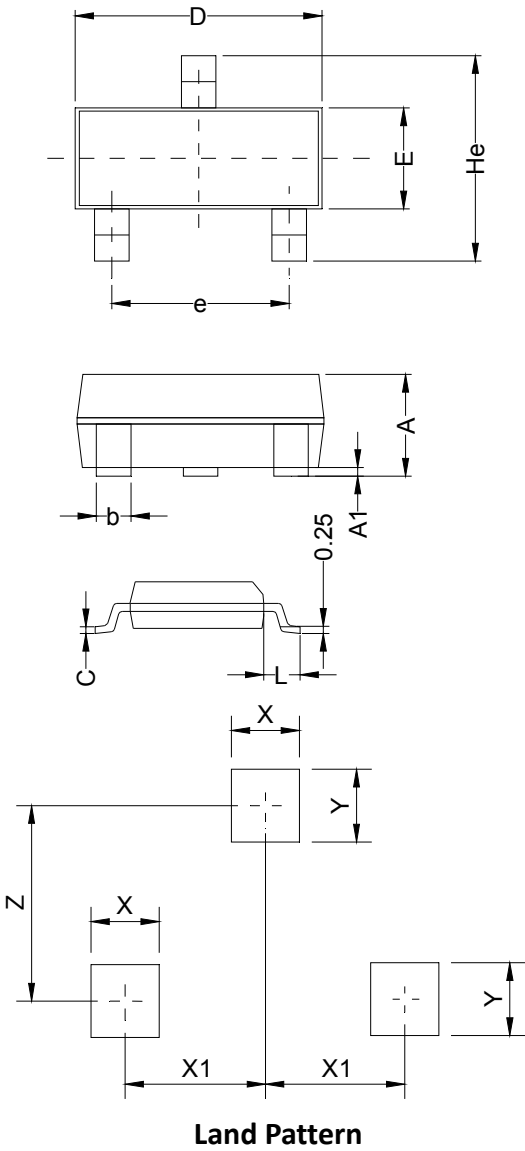
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Test Condition		Value			Unit
			MIN.	TYP.	MAX.	
$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$, $I_E=0$	BC856	-80			V
		BC857	-50			
		BC858	-30			
$V_{(BR)CEO}$	$I_C=-10\text{mA}$, $I_B=0$	BC856	-65			V
		BC857	-45			
		BC858	-30			
$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$, $I_C=0$		-6			V
I_{CEO}	$V_{CE}=-60\text{V}$, $I_B=0$	BC856			-100	nA
	$V_{CE}=-40\text{V}$, $I_B=0$	BC857				
	$V_{CE}=-25\text{V}$, $I_B=0$	BC858				
I_{CBO}	$V_{CB}=-70\text{V}$, $I_E=0$	BC856			-100	nA
	$V_{CB}=-45\text{V}$, $I_E=0$	BC857				
	$V_{CB}=-25\text{V}$, $I_E=0$	BC858				
I_{EBO}	$V_{EB}=-5\text{V}$, $I_C=0$				-100	nA
h_{FE}	$I_C=-2\text{mA}$, $V_{CE}=-5\text{V}$	BC856A,BC857A,BC858A	125		250	
		BC856B,BC857B,BC858B	220		475	
		BC857C,BC858C	420		800	
$V_{CE(sat)}$	$I_C=-100\text{mA}$, $I_B=-5\text{mA}$		-	-	-0.50	V
$V_{BE(sat)}$	$I_C=-100\text{mA}$, $I_B=-5\text{mA}$		-	-	-1.10	V
f_T	$V_{CE}=-5\text{V}$, $I_C=-10\text{mA}$, $f=100\text{MHz}$		100			MHz
C_{ob}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$				4.5	pF

THERMAL RESISTANCES

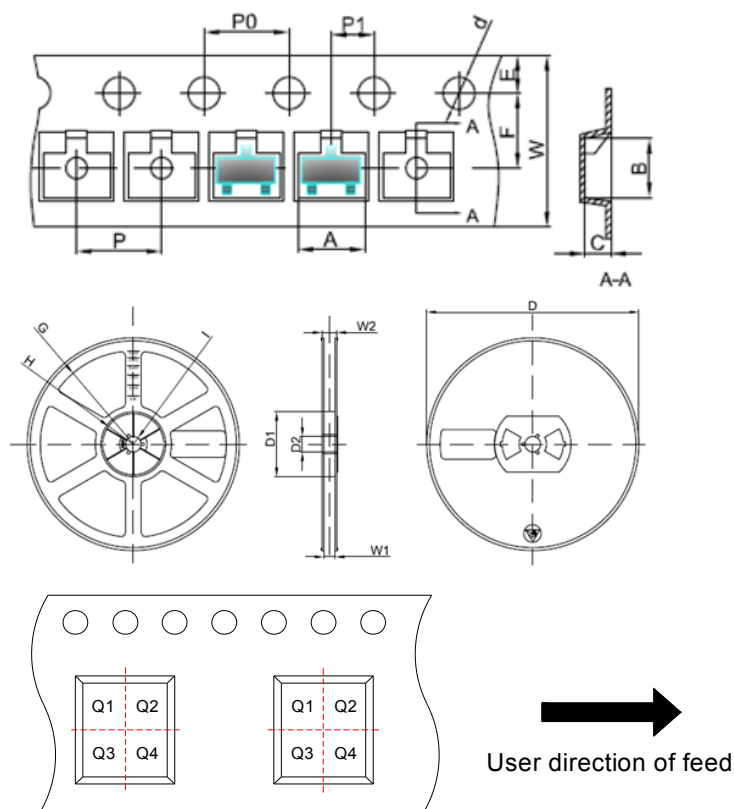
Symbol	Parameter	Value (Max.)	Unit
$R_{th(J-A)}$	junction to ambient	625	$^{\circ}\text{C/W}$

PACKAGE MECHANICAL DATA



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.90	1.063	1.15	0.035	0.042	0.045
A1	0.00	0.075	0.14	0.000	0.003	0.006
b	0.30	0.40	0.50	0.012	0.016	0.020
C	0.07	0.10	0.15	0.003	0.004	0.006
D	2.80	2.90	3.00	0.110	0.114	0.118
e	1.80	1.90	2.00	0.071	0.075	0.079
E	1.20	1.30	1.40	0.047	0.051	0.055
L	0.55REF			0.022REF		
He	2.25	2.40	2.55	0.089	0.094	0.100
X	0.80			0.031		
X1	0.95			0.037		
Y	0.80			0.031		
Z	2.02			0.080		

TAPE AND REEL SPECIFICATION-SOT-23



Packaging Description:

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

ORDERING INFORMATION

Part Number	Package	Reel Size	Quantity Per Reel
BC856/BC857/BC858	SOT-23	7 Inch	3,000 pcs

FIG.1: Power derating curve

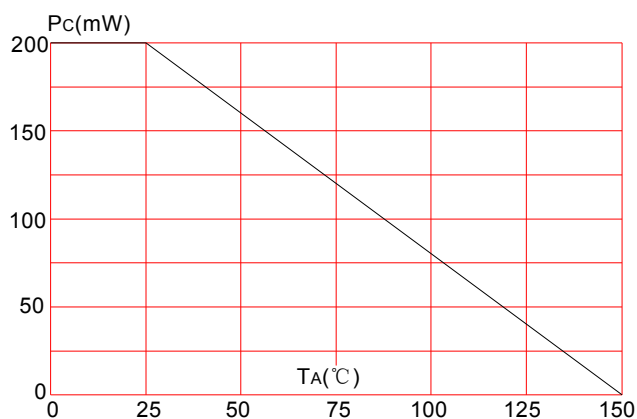
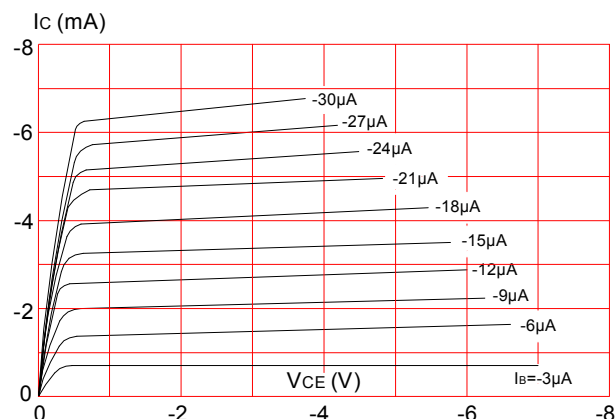


FIG.2: Static characteristic



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