Micro Commercial Components

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BC856AW/BW
BC857AW/BW/CW
BC858AW/BW/CW

PNP
General Purpose Transistors

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Ideally Suited for Automatic Insertion
- Complementary PNP Silicon Types Available
- For Switching and AF Amplifier Applications
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

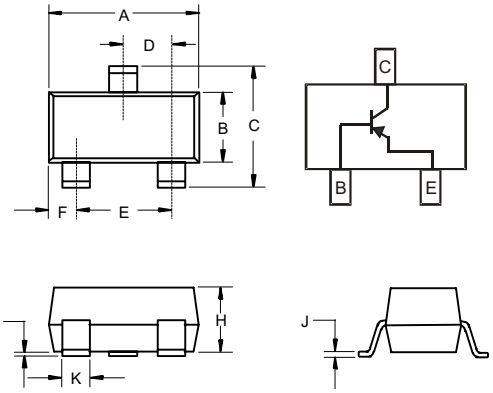
- Operating temperature : -65℃ to +150℃
- Storage temperature : -65℃ to +150℃
- Marking: BC856AW---3A ; BC856BW---3B
  BC857AW---3E ; BC857BW---3F ; BC857CW---3G
  BC858AW---3J ; BC858BW---3K ; BC858CW---3L

Electrical Characteristics @ 25℃ Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=10μAdc, I_E=0) BC856AW,BW BC857AW,BW,CW BC858AW,BW,CW	 --- --- ---	 80 50 30	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=10mAdc, I_B=0) BC856AW,BW BC857AW,BW,CW BC858AW,BW,CW	 --- --- ---	 65 45 30	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage (I_E=10μAdc, I_C=0)	---	5	Vdc
I_{CBO}	Collector Cut-off Current (V_{CB}=30v) (V_{CB}=30v,T_A=150℃)	---	15 4	nAdc uAdc
$H_{FE(1)}$	DC Current Gain(V_{CE}=5V, I_C=2mA) BC856AW,BC857AW,BC858AW BC856BW,BC857BW,BC858CW BC857CW,BC858CW	 125 220 420	 250 475 800	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=100mA, I_B=5mA)	---	0.65	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (I_C=100mA, I_B=5mA)	---	1.10	Vdc
f_T	Transition Frequency (VCE=5V, I_C=10mA, f=100MHz)	100	200	MHz
NF	Noise Figure (V_{CE}=5v,Ic=200uA,Rs=2kohm,f=1kHz)	---	10	dB
C_{CBO}	Collector-Base Capacitance (V_{CB}=10v,f=1.0kHz)	---	4.5	pF
Pd	Power Dissipation	---	150	mW
R_{JA}	Thermal Resistance,Juncition to Ambient	---	625	℃/W
Ic	Collector Current - Continuous	---	100	mA

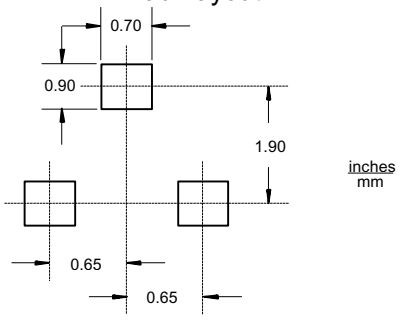
Note 1: Transistor mounted on an FR4 printed-circuit board

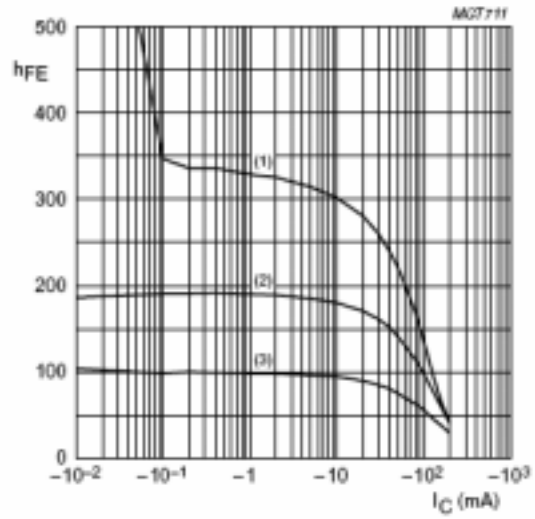
SOT-323



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

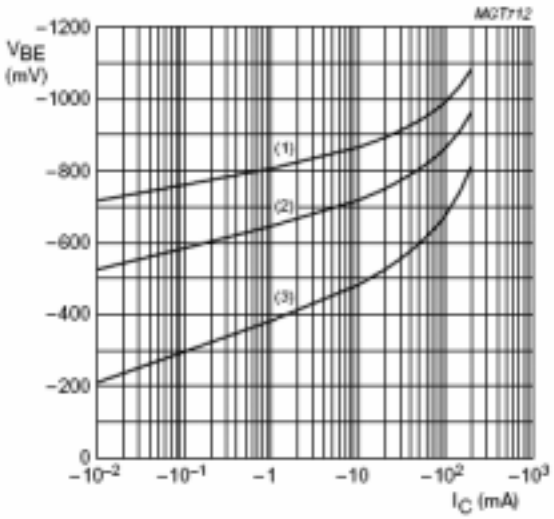
Suggested Solder Pad Layout





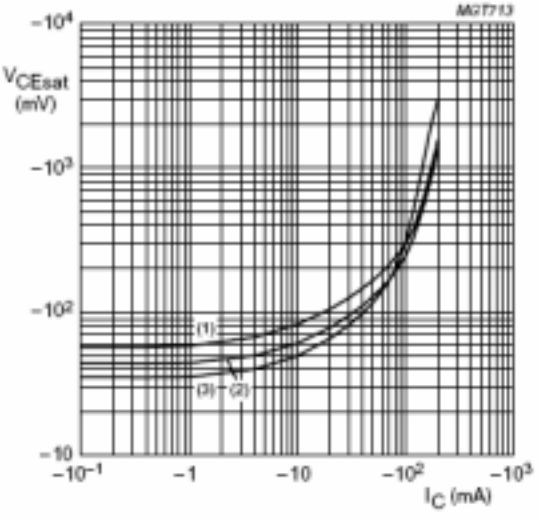
BC857AW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.2 DC current gain as a function of collector current; typical values.



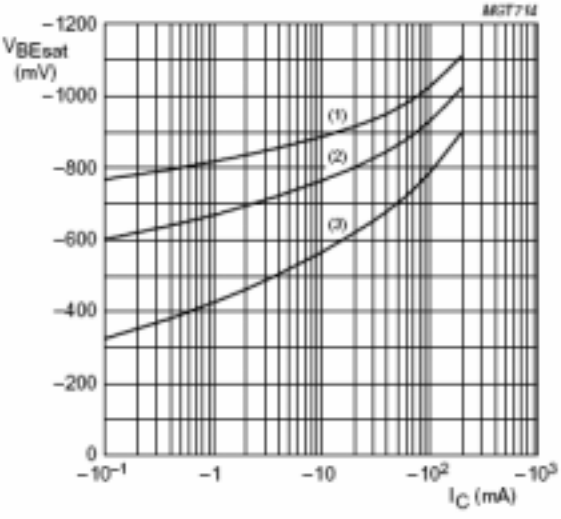
BC857AW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.3 Base-emitter voltage as a function of collector current; typical values.



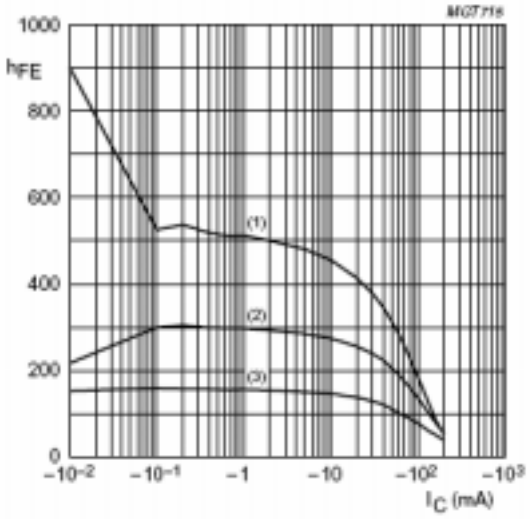
BC857AW; I_C/I_B = 20.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.4 Collector-emitter saturation voltage as a function of collector current; typical values.



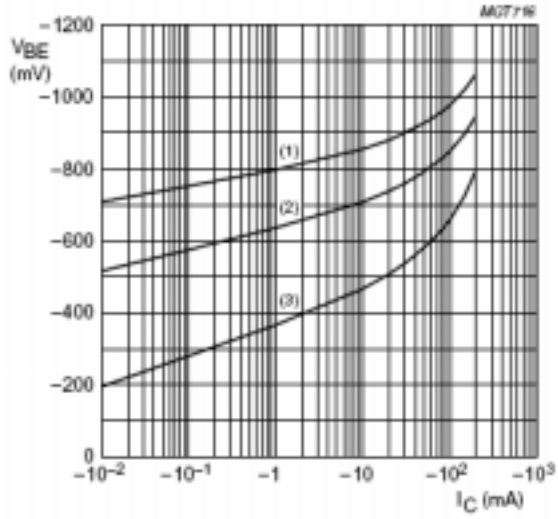
BC857AW; I_C/I_B = 20.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.5 Base-emitter saturation voltage as a function of collector current; typical values.



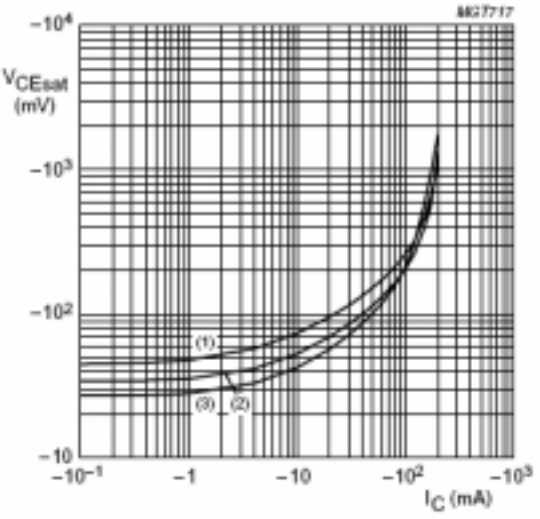
BC857BW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.6 DC current gain as a function of collector current; typical values.



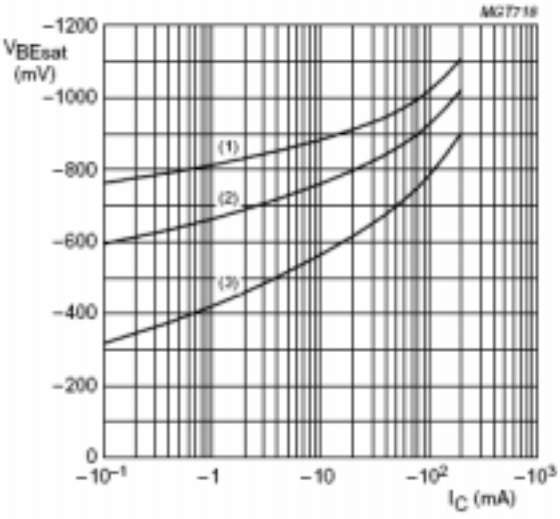
BC857BW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.7 Base-emitter voltage as a function of collector current; typical values.



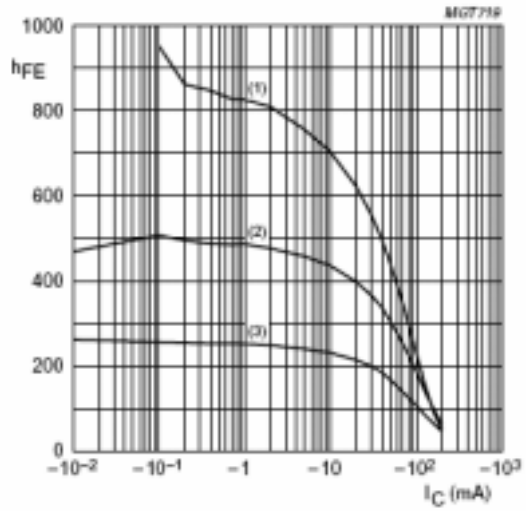
BC857BW; I_C/I_B = 20.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.8 Collector-emitter saturation voltage as a function of collector current; typical values.



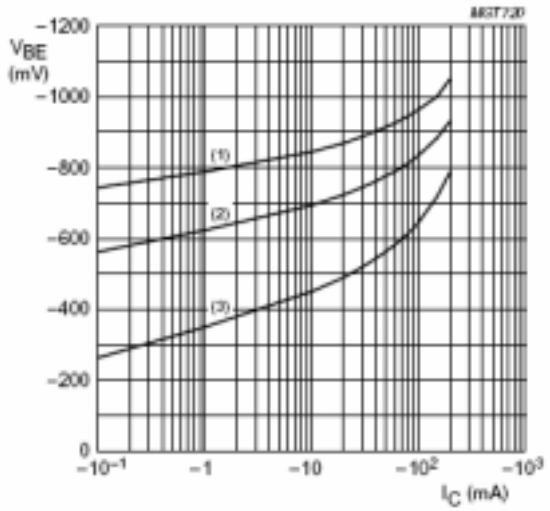
BC857BW; I_C/I_B = 20.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.9 Base-emitter saturation voltage as a function of collector current; typical values.



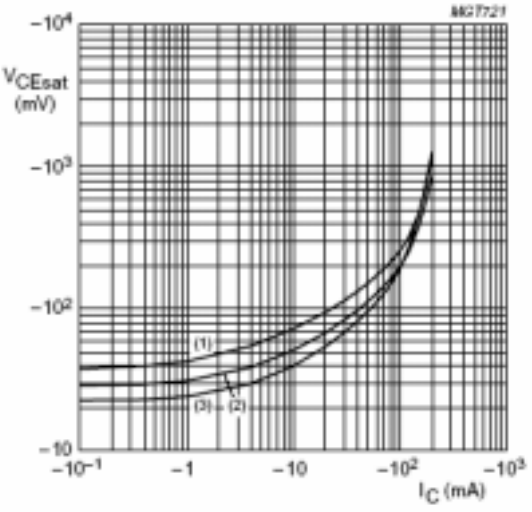
BC857CW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.10 DC current gain as a function of collector current; typical values.



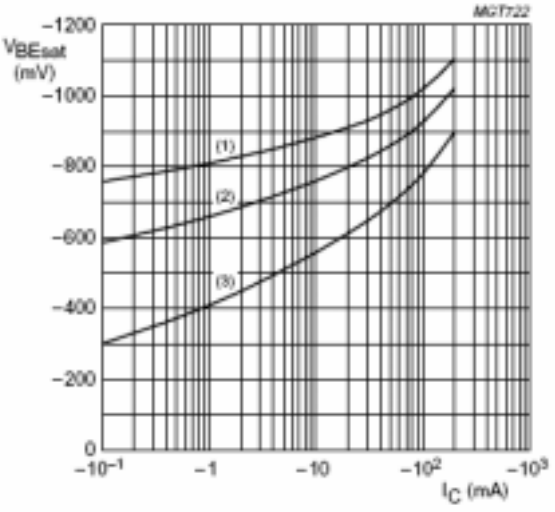
BC857CW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.11 Base-emitter voltage as a function of collector current; typical values.



BC857CW; I_C/I_B = 20.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.12 Collector-emitter saturation voltage as a function of collector current; typical values.



BC857CW; I_C/I_B = 20.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.13 Base-emitter saturation voltage as a function of collector current; typical values.

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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel;3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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