



Micro Commercial Components



Micro Commercial Components
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**BC856AW/BW
BC857AW/BW/CW
BC858AW/BW/CW**

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
- Moisture Sensitivity Level 1

**PNP
General Purpose
Transistors**

Maximum Ratings

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

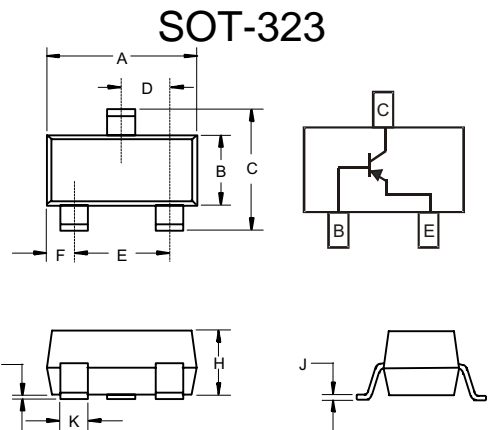
Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

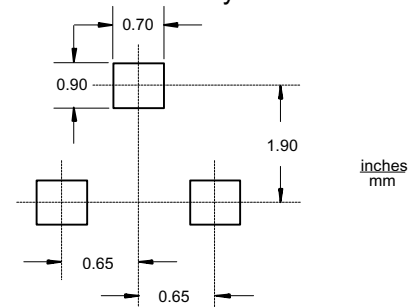
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=10\mu A_{dc}$, $I_E=0$)				
	BC856AW,BW	---	80	Vdc	
	BC857AW,BW,CW	---	50		
	BC858AW,BW,CW	---	30		
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=10mA_{dc}$, $I_B=0$)				
	BC856AW,BW	---	65	Vdc	
	BC857AW,BW,CW	---	45		
	BC858AW,BW,CW	---	30		
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ($I_E=10\mu A_{dc}$, $I_C=0$)		5	Vdc	
I_{CBO}	Collector Cut-off Current ($V_{CB}=30V$) ($V_{CB}=30V$, $T_A=150^\circ C$)	---	15	nAdc	
			4	uAdc	
$H_{FE(1)}$	DC Current Gain($V_{CE}=5V$, $I_C=2mA$)				
	BC856AW,BC857AW,BC858AW	125	250		
	BC856BW,BC857BW,BC858CW	220	475		
	BC857CW,BC858CW	420	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 ($V_{CE}=5V$, $I_C=10mA$, $f=100MHz$)	100	200	MHz	
NF	Noise Figure ($V_{CE}=5V$, $I_C=200\mu A$, $R_s=2k\Omega$, $f=1kHz$)	---	10	dB	
C_{CBO}	Collector-Base Capacitance ($V_{CB}=10V$, $f=1.0kHz$)	---	4.5	pF	
P_d	Power Dissipation	---	150	mW	
R_{JA}	Thermal Resistance, Junction to Ambient	---	625	$^\circ C/W$	
I_C	Collector Current - Continuous	---	100	mA	

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

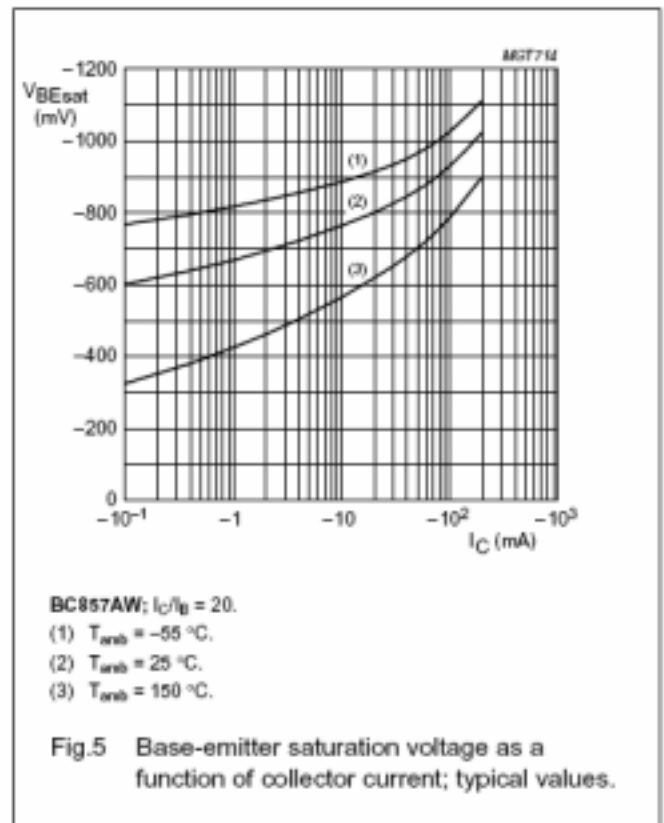
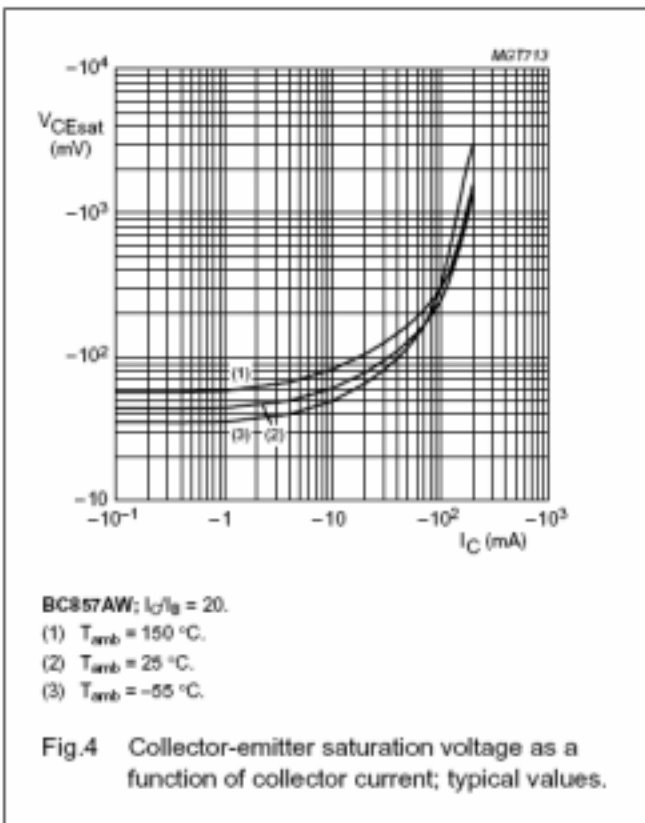
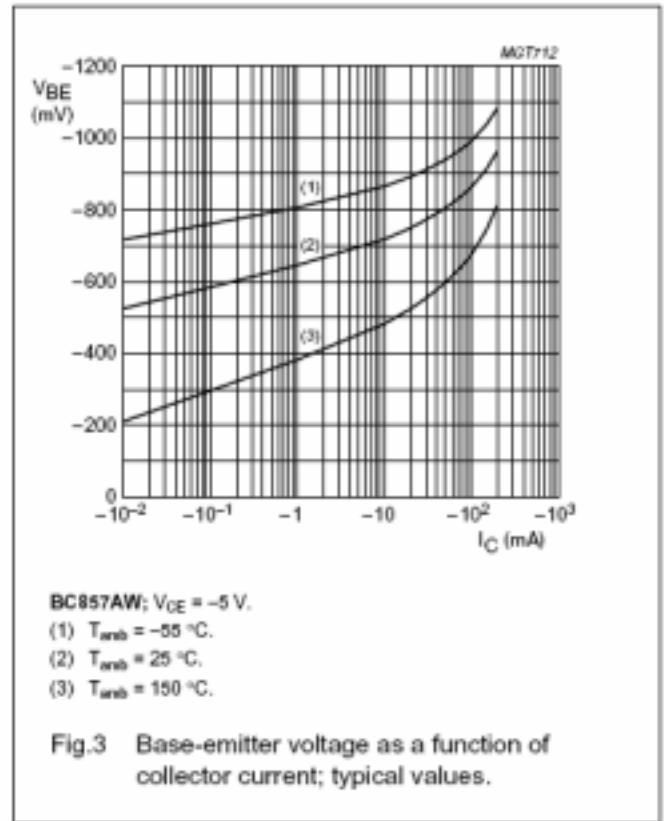
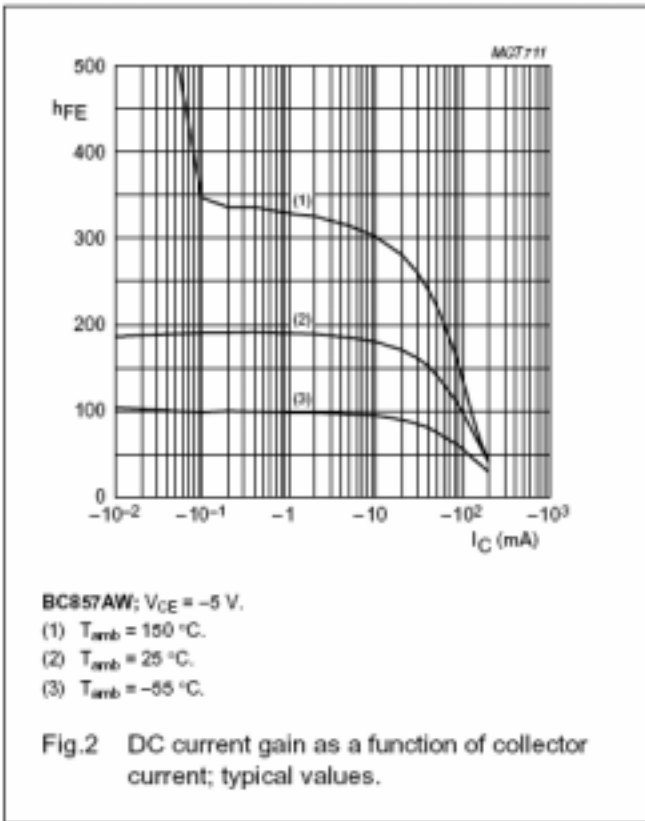


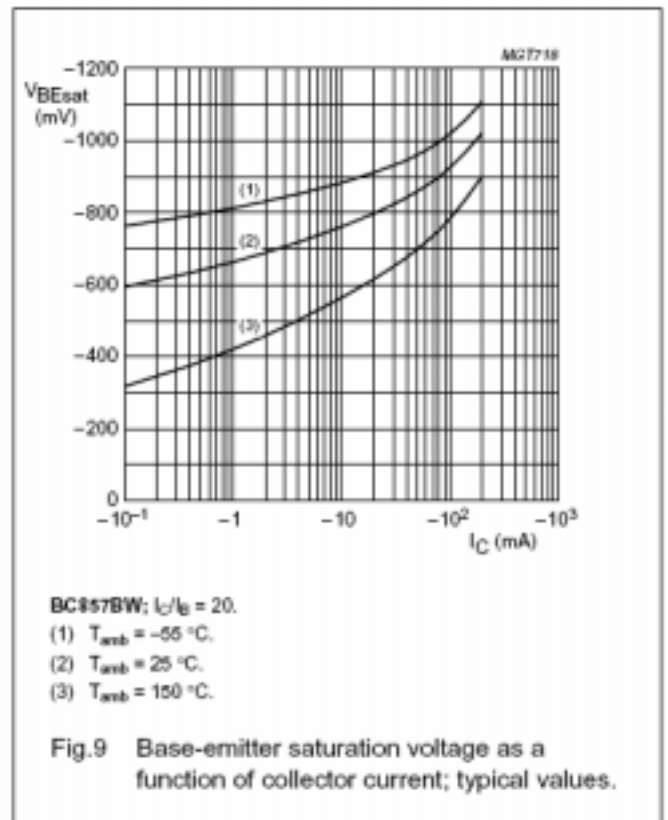
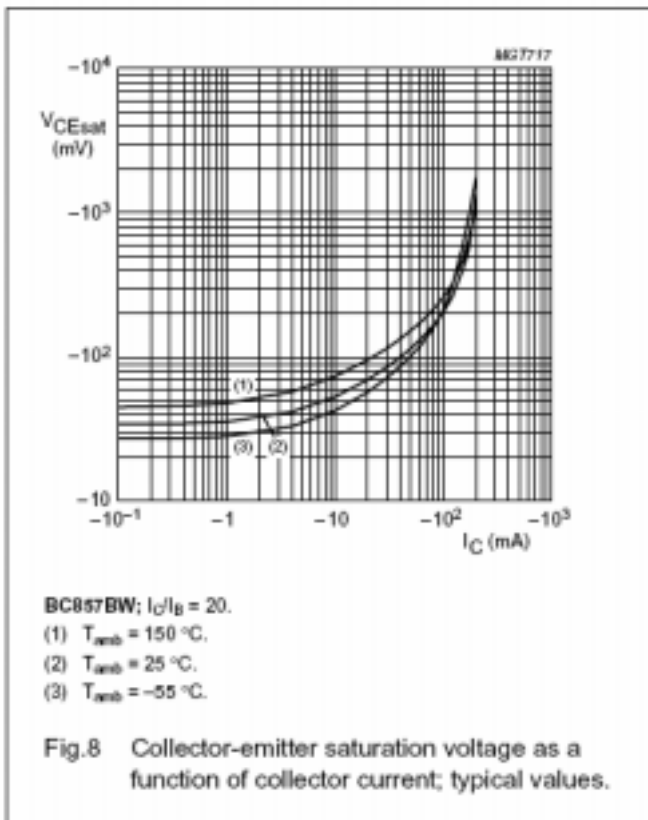
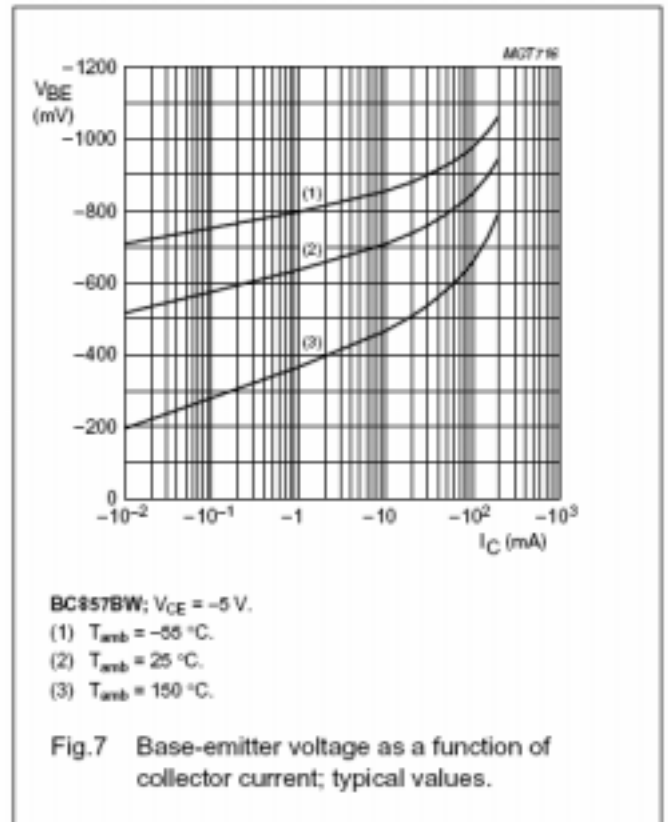
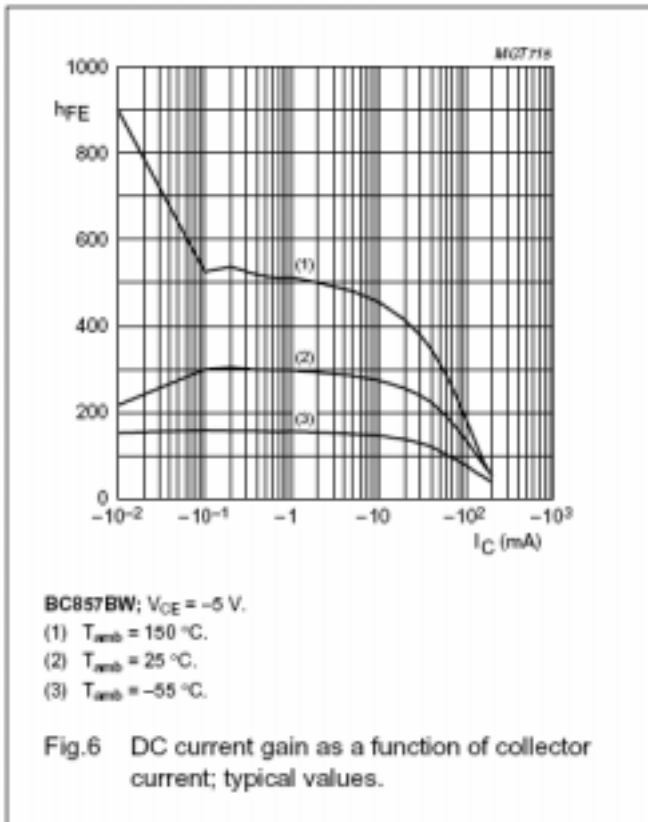
DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

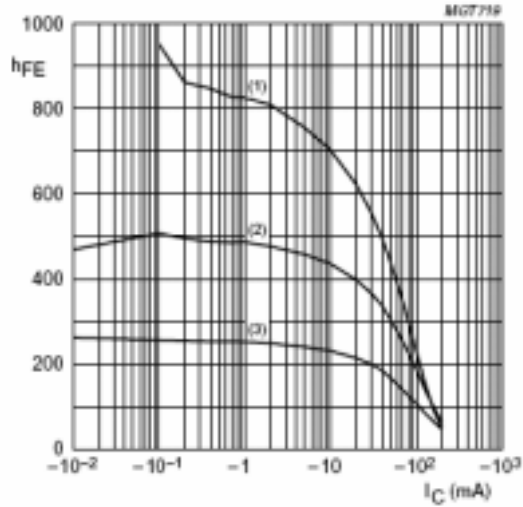
Suggested Solder Pad Layout



BC856A/BW;BC857A/B/CW;BC858A/B/CW

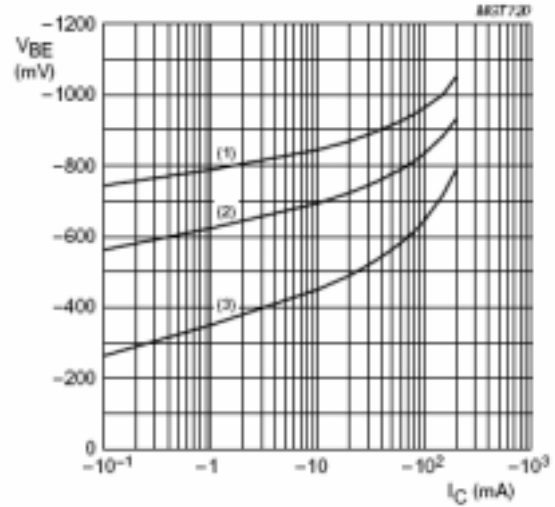






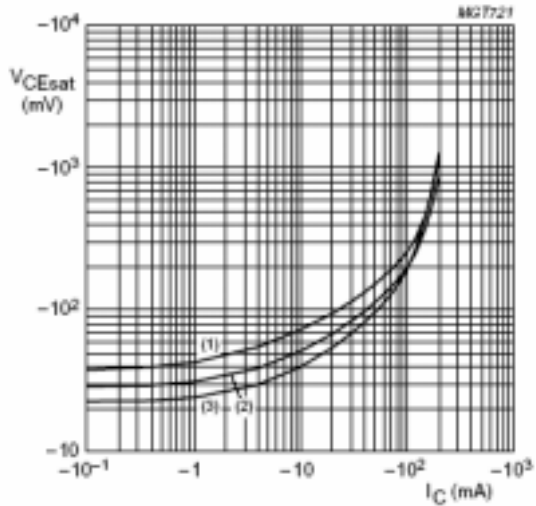
BC857CW; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



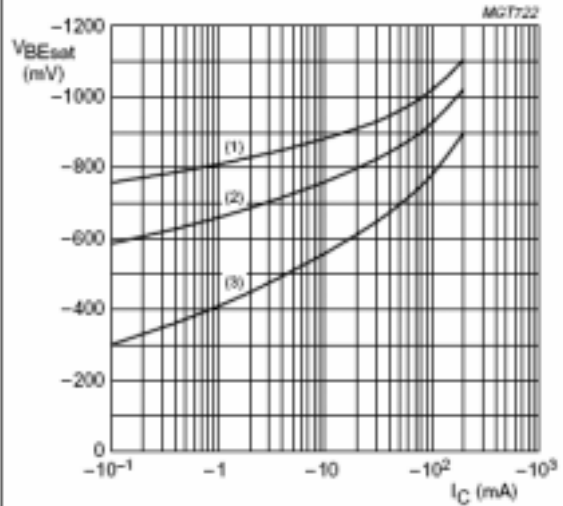
BC857CW; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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



BC857CW; $I_C/I_B = 20$.
 (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



BC857CW; $I_C/I_B = 20$.
 (1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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

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