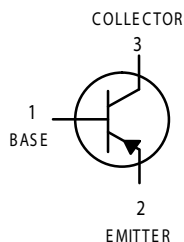
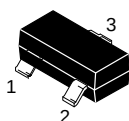
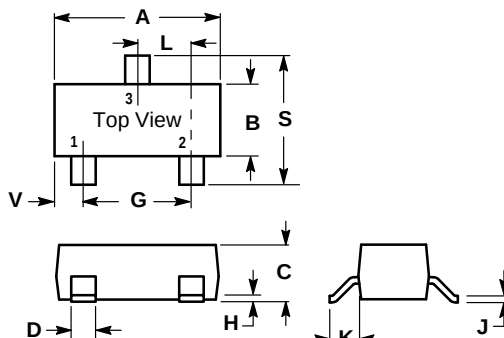


FEATURES

- * Ideally suited for automatic insertion
- * For Switching and AF Amplifier Applications
- * Operating Temp. : -55°C ~ +150°C



SOT-323		
Dim	Min	Max
A	1.800	2.200
B	1.150	1.350
C	0.800	1.000
D	0.300	0.400
G	1.200	1.400
H	0.000	0.100
J	0.100	0.250
K	0.350	0.500
L	0.590	0.720
S	2.000	2.400
V	0.280	0.420
All Dimension in mm		

MAXIMUM RATINGS* $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		V
		BC856	
		BC857	
		BC858	
V_{CEO}	Collector-Emitter Voltage		V
		BC856	
		BC857	
		BC858	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current –Continuous	-0.1	A
P_C^*	Collector Dissipation	150	mW
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-65~150	°C

*Package mounted on FR4 printed circuit board.

DEVICE MARKING

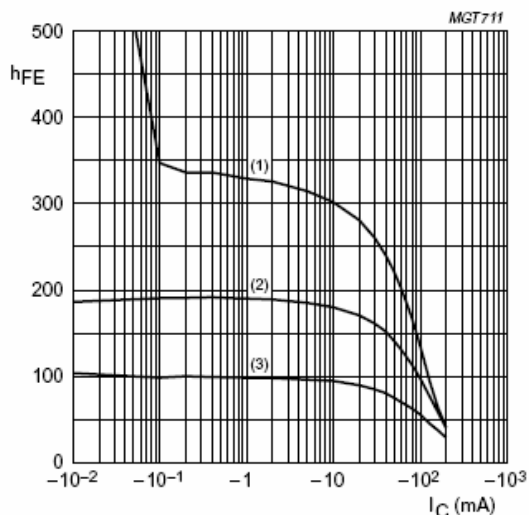
BC856AW=3A; BC856BW=3B;
BC857AW=3E; BC857BW=3F; BC857CW=3G;
BC858AW=3J; BC858BW=3K; BC858CW=3L

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V _{CBO}	I _C = -10μA, I _E =0	-80		V
BC856			-50		
BC857			-30		
Collector-emitter breakdown voltage	V _{CEO}	I _C = -10mA, I _B =0	-65		V
BC856			-45		
BC857			-30		
Emitter-base breakdown voltage	V _{EBO}	I _E = -1μA, I _C =0	-5		V
Collector Cutoff Current	I _{CBO}	V _{CB} =-30V, I _E =0		-15	nA
DC current gain	h _{FE}	V _{CE} = -5V, I _C = -2 mA	125	250	
BC856AW,857AW,858AW			220	475	
BC856BW,857BW,858BW			420	800	
BC857CW,BC858CW					
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 output capacitance	C _{ob}	V _{CB} =-10V,f=1MHz		4.5	pF

Typical Characteristics

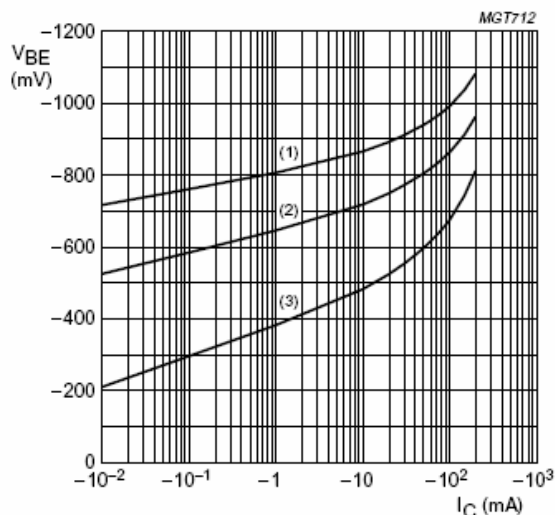
BC856A/BW, BC857A/BW, BC858A/BW



BC857AW; $V_{CE} = -5$ V.

- (1) $T_{amb} = 150$ °C.
- (2) $T_{amb} = 25$ °C.
- (3) $T_{amb} = -55$ °C.

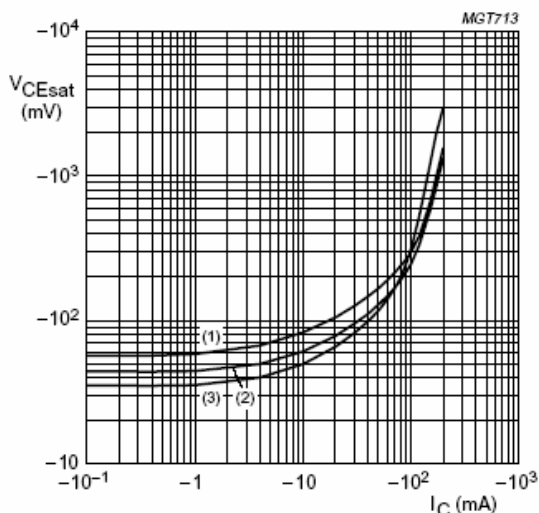
Fig.2 DC current gain as a function of collector current; typical values.



BC857AW; $V_{CE} = -5$ V.

- (1) $T_{amb} = -55$ °C.
- (2) $T_{amb} = 25$ °C.
- (3) $T_{amb} = 150$ °C.

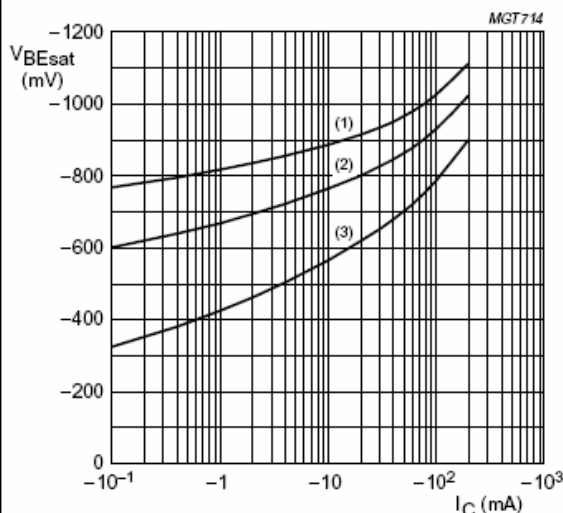
Fig.3 Base-emitter voltage as a function of collector current; typical values.



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.

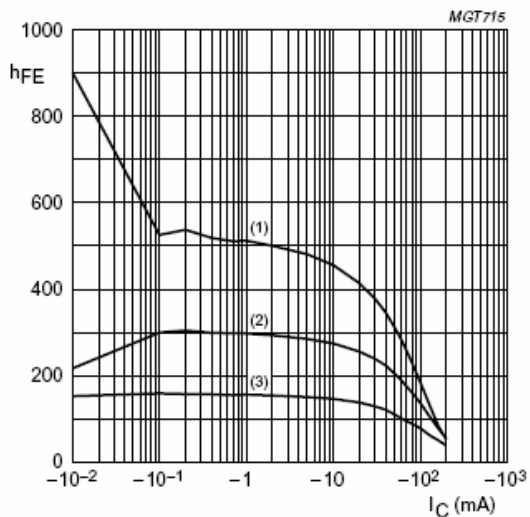


BC857AW; $I_C/I_B = 20$.

- (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.

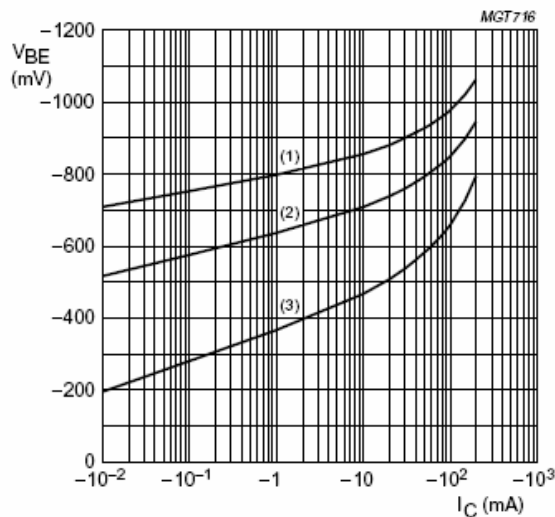
BC856A/BW, BC857A/BW, BC858A/BW



BC857BW; $V_{CE} = -5$ V.

- (1) $T_{amb} = 150$ °C.
- (2) $T_{amb} = 25$ °C.
- (3) $T_{amb} = -55$ °C.

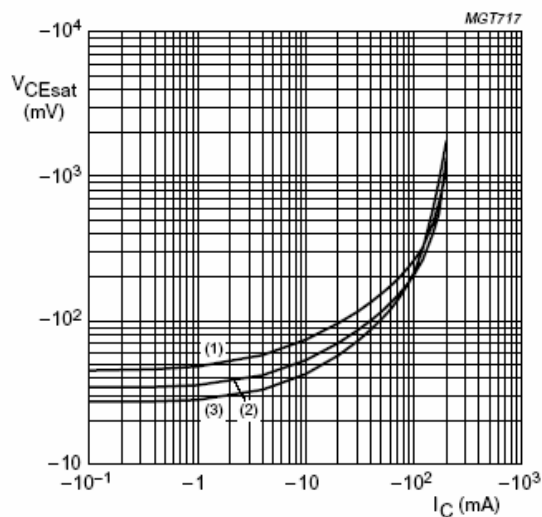
Fig.6 DC current gain as a function of collector current; typical values.



BC857BW; $V_{CE} = -5$ V.

- (1) $T_{amb} = -55$ °C.
- (2) $T_{amb} = 25$ °C.
- (3) $T_{amb} = 150$ °C.

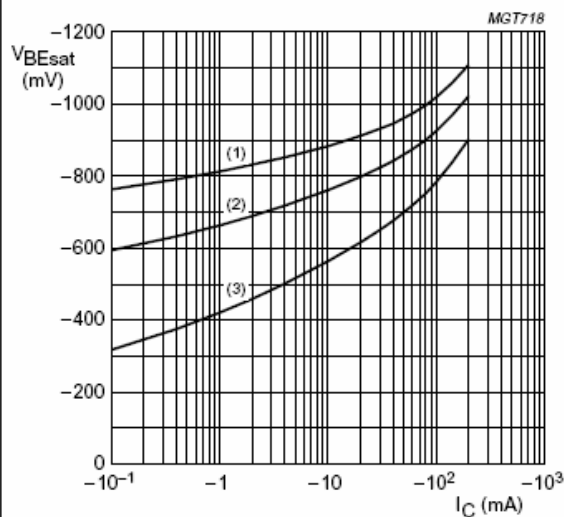
Fig.7 Base-emitter voltage as a function of collector current; typical values.



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.

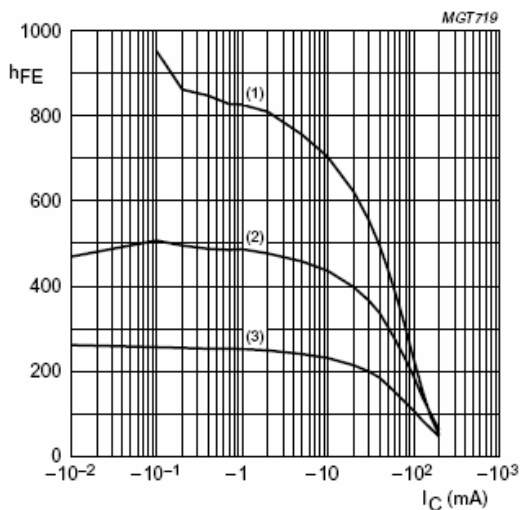


BC857BW; $I_C/I_B = 20$.

- (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.

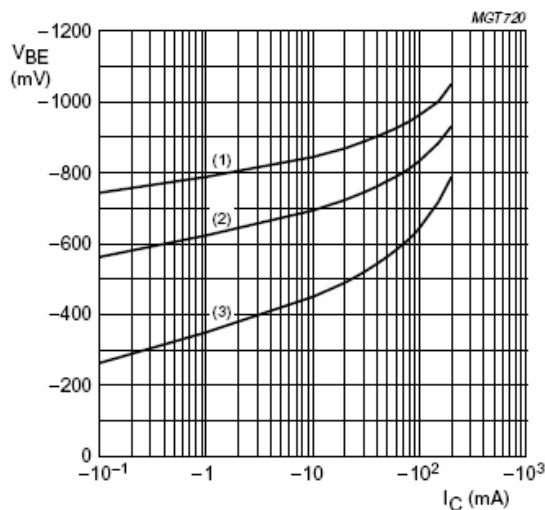
BC856A/BW, BC857A/BW, BC858A/BW



BC857CW; $V_{CE} = -5\text{ V}$.

- (1) $T_{amb} = 150^\circ\text{C}$.
- (2) $T_{amb} = 25^\circ\text{C}$.
- (3) $T_{amb} = -55^\circ\text{C}$.

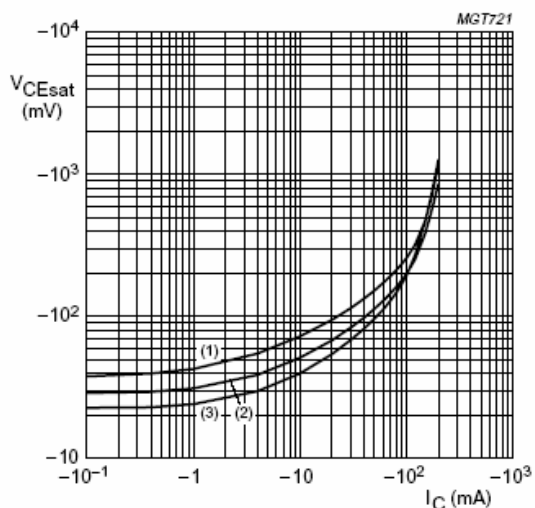
Fig.10 DC current gain as a function of collector current; typical values.



BC857CW; $V_{CE} = -5\text{ V}$.

- (1) $T_{amb} = -55^\circ\text{C}$.
- (2) $T_{amb} = 25^\circ\text{C}$.
- (3) $T_{amb} = 150^\circ\text{C}$.

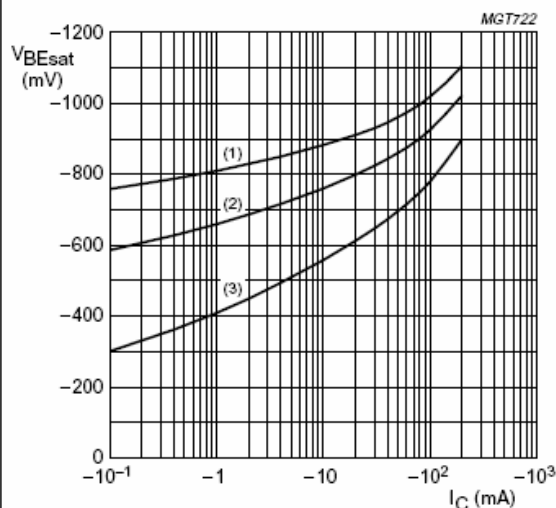
Fig.11 Base-emitter voltage as a function of collector current; typical values.



BC857CW; $I_C/I_B = 20$.

- (1) $T_{amb} = 150^\circ\text{C}$.
- (2) $T_{amb} = 25^\circ\text{C}$.
- (3) $T_{amb} = -55^\circ\text{C}$.

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



BC857CW; $I_C/I_B = 20$.

- (1) $T_{amb} = -55^\circ\text{C}$.
- (2) $T_{amb} = 25^\circ\text{C}$.
- (3) $T_{amb} = 150^\circ\text{C}$.

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