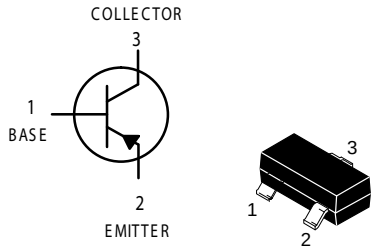
Elektronische Bauelemente

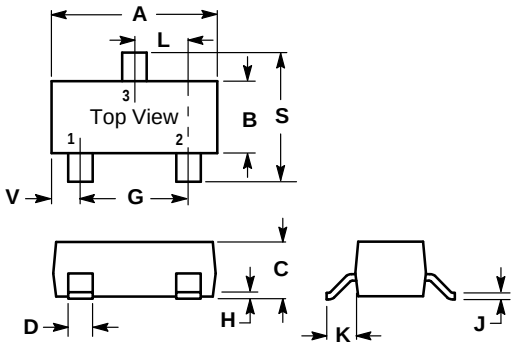
BC856AW, BW
BC857AW, BW, CW
BC858AW, BW, CW

RoHS Compliant Product

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°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		V
	BC856	-80	
	BC857	-50	
	BC858	-30	
V_{CEO}	Collector-Emitter Voltage		V
	BC856	-65	
	BC857	-45	
	BC858	-30	
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

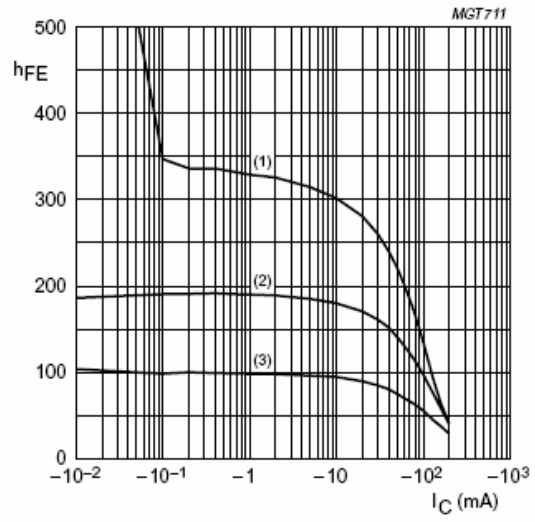
BC856AW=3A; BC856BW=3B;
BC857AW=3E; BC857BW=3F; BC857CW=3G;
BC858AW=3J; BC858BW=3K: BC858CW=3L

ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

Parameter		Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	BC856	V_{CBO}	Ic= -10μA, I_E=0	-80		V
	BC857			-50		
	BC858			-30		
Collector-emitter breakdown voltage	BC856	V_{CEO}	Ic= -10mA, I_B=0	-65		V
	BC857			-45		
	BC858			-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	BC856AW,857AW,858AW	h_{FE}	V_{CE}= -5V, I_C= -2 mA	125	250	
	BC856BW,857BW,858BW			220	475	
	BC857CW,BC858CW			420	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 output capacitance		C_{ob}	V_{CB}=-10V,f=1MHz		4.5	pF

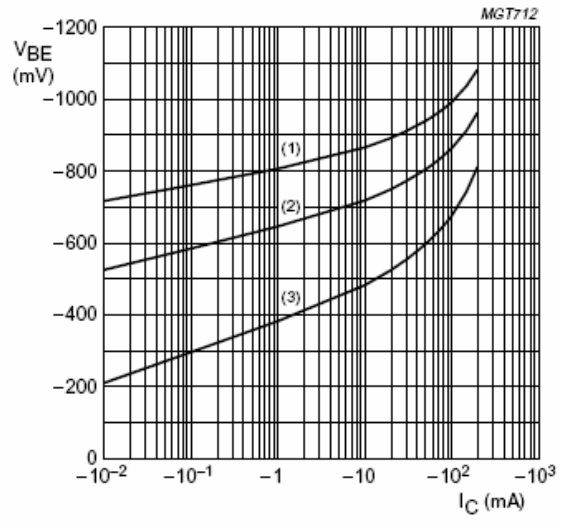
Typical Characteristics

BC856A/BW, BC857A/BW, BC858A/BW



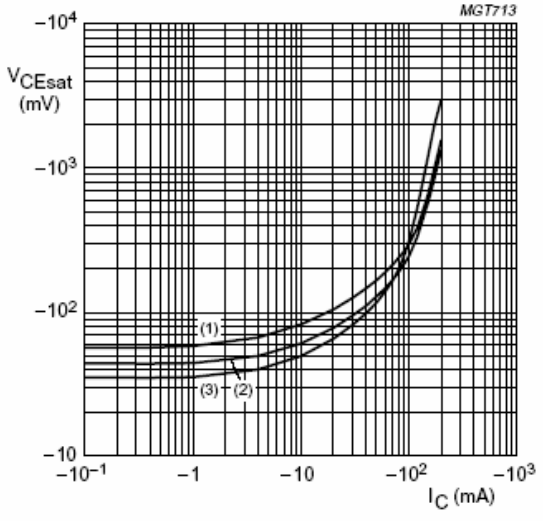
BC857AW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

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



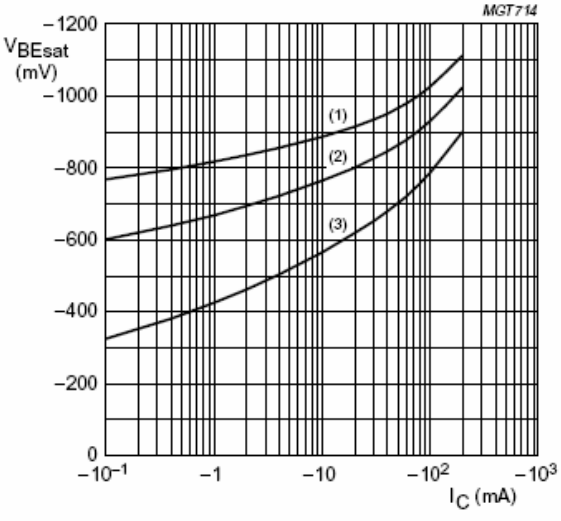
BC857AW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

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.

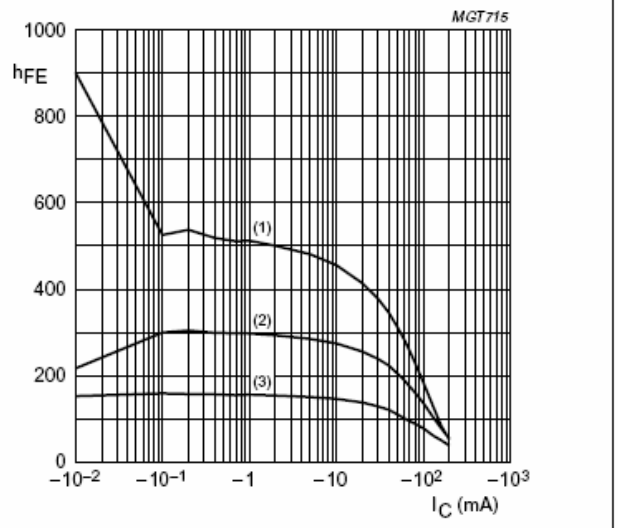
Fig.4 Collector-emitter saturation voltage as a function of collector current; typical values.



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

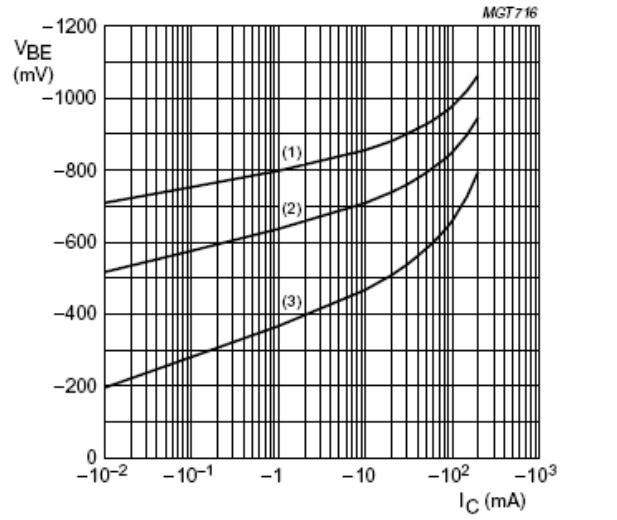
Fig.5 Base-emitter saturation voltage as a function of collector current; typical values.

BC856A/BW, BC857A/BW, BC858A/BW



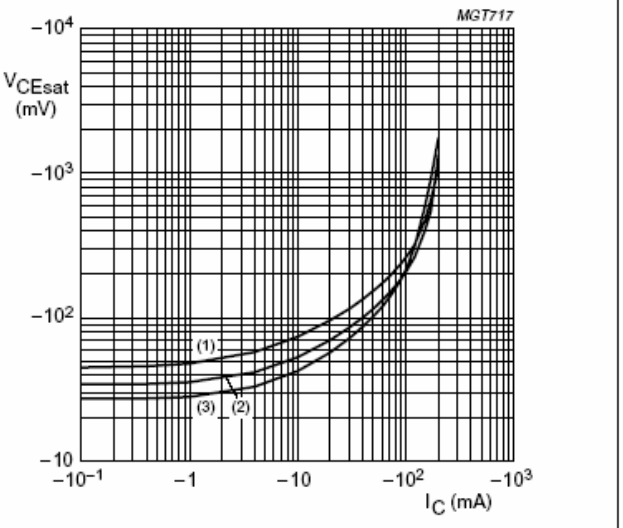
BC857BW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

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



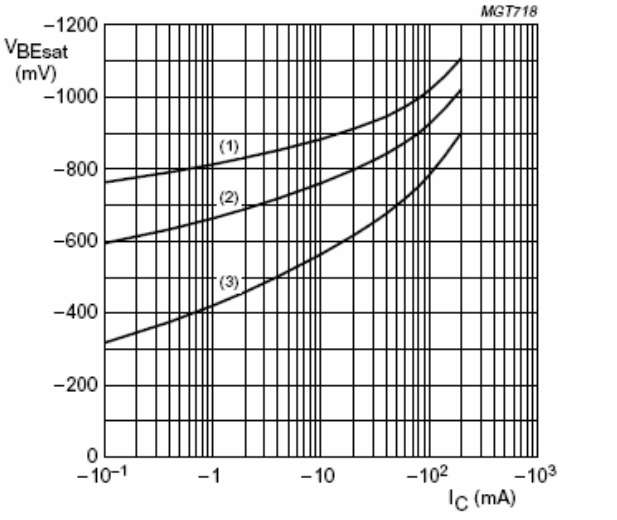
BC857BW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

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.

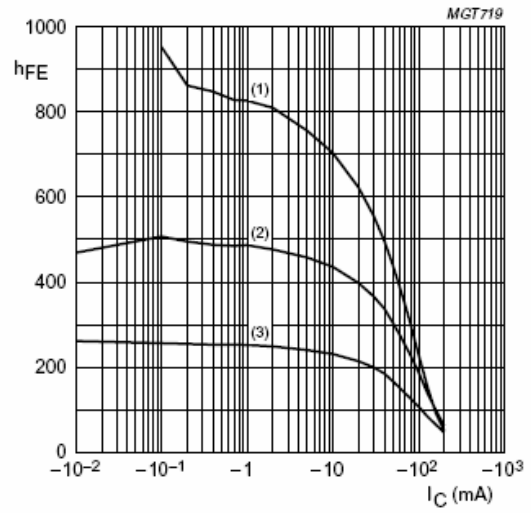
Fig.8 Collector-emitter saturation voltage as a function of collector current; typical values.



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

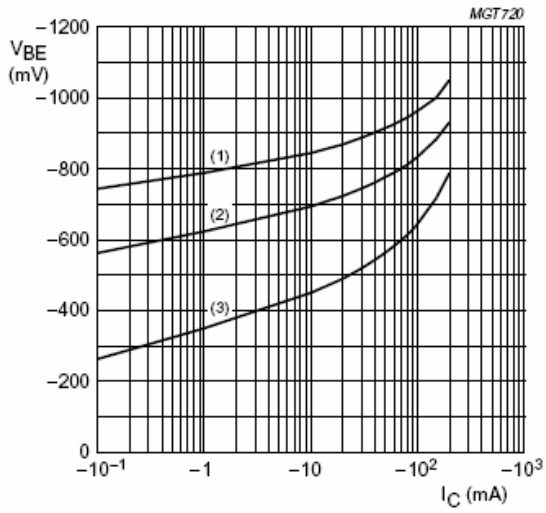
Fig.9 Base-emitter saturation voltage as a function of collector current; typical values.

BC856A/BW, BC857A/BW, BC858A/BW



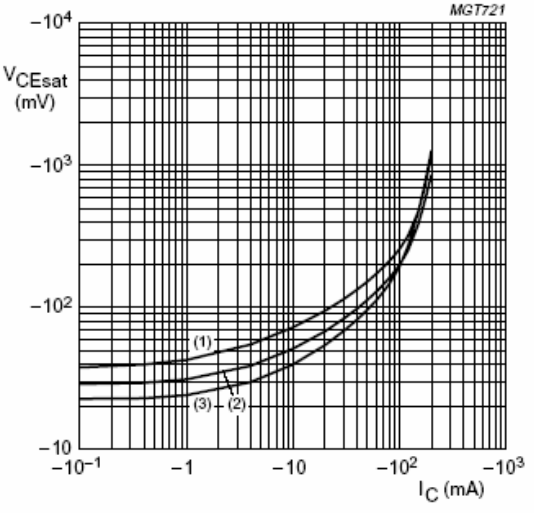
BC857CW; V_{CE} = −5 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

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



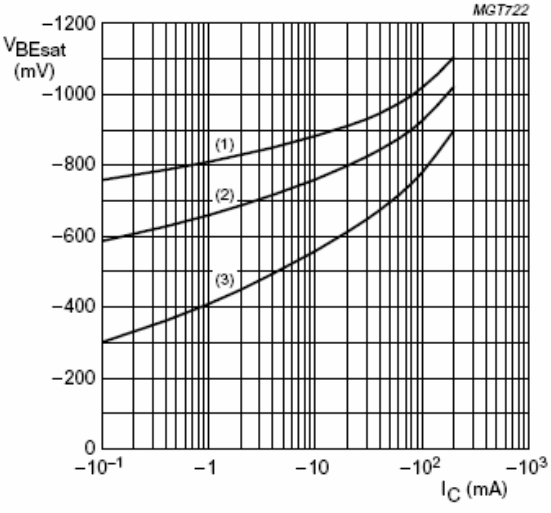
BC857CW; V_{CE} = −5 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

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.