

FEATURES

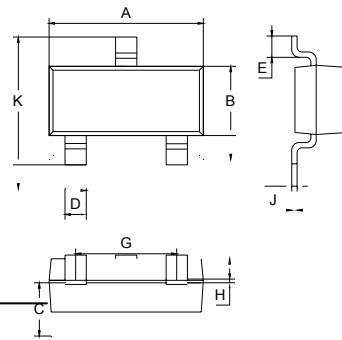
- Low current.(max.100mA).
- Low voltage..

APPLICATIONS

- General purpose switching and amplification.

ORDERING INFORMATION

Type No.	Marking	Package Code
BC856A/B	3A/3B	SOT-23
BC857A/B/C	3E/3F/3G	SOT-23
BC858A/B/C	3J/3K/3L	SOT-23



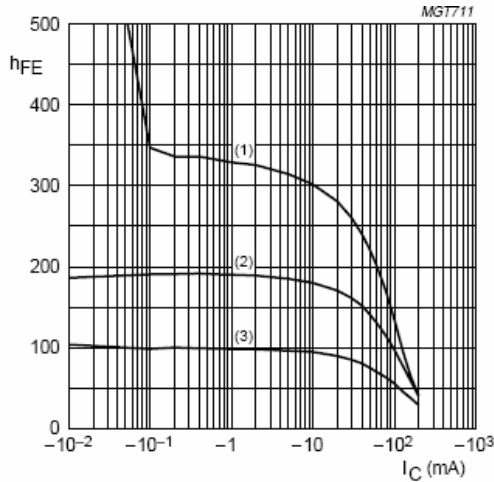
SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	BC856	-80
		BC857	-50
		BC858	-30
V _{CEO}	Collector-Emitter Voltage	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	250	mW
T _j , T _{stg}	Junction and Storage Temperature	-65 to +150	°C

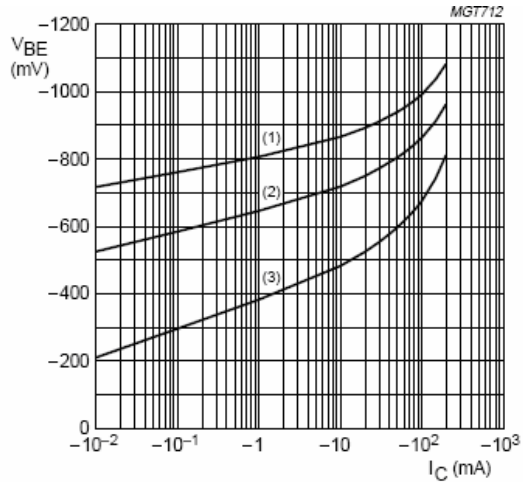
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BC856 BC857 BC858	V _{(BR)CBO} I _C =-10μA, I _E =0	-80 -50 -30			V
Collector-emitter breakdown voltage	BC856 BC857 BC858	V _{(BR)CEO} I _C =-10mA, I _B =0	-65 -45 -30			V
Emitter-base breakdown voltage		V _{(BR)EBO} I _E =-1μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-30V, I _E =0		-1	-15	nA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-0.1	μA
DC current gain	BC856A,857A,858A BC856B,857B,858B BC857C,858C	h _{FE} V _{CE} =-5V, I _C =-2mA	125 220 420		250 475 800	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-100mA, I _B =-5mA I _C =-10mA, I _B =-0.5mA			-0.65 -0.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =-10mA, I _B =-0.5mA I _C =-100mA, I _B =-5mA		-0.7 -0.85		V
Base-emitter voltage	V _{BE(on)}	I _C =-2mA, V _{CE} =-5V I _C =-10mA, V _{CE} =-5V	-0.6	-0.65	-0.75 -0.82	V
collector capacitance	C _c	V _{CB} =-10V, I _E =I _C =0 f=1MHz		4.5		pF
Transition frequency	F	I _C =-200μA, V _{CE} =-5V, R _S =2kΩ, f=1kHz, B=200Hz		2	10	dB
Transition frequency	f _T	V _{CE} =-5V, I _C =-10mA f=100MHz	100			MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified


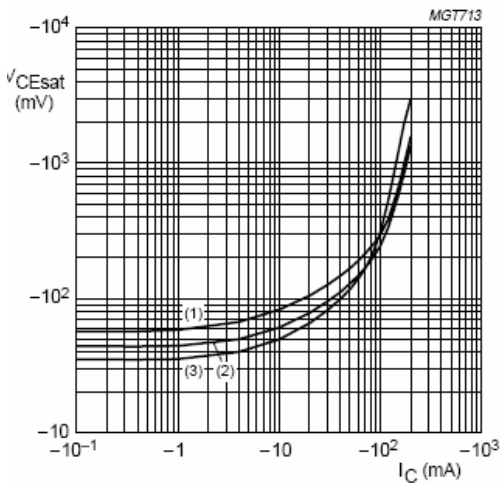
BC857A; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = 150\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = -55\text{ }^\circ\text{C}$.

Fig. 1 DC current gain as a function of collector current; typical values.



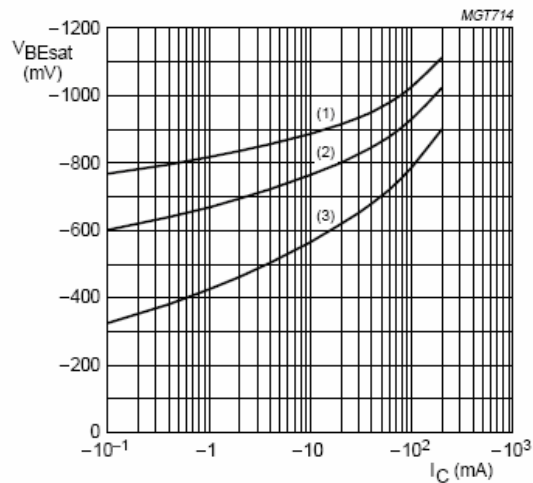
BC857A; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = -55\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = 150\text{ }^\circ\text{C}$.

Fig. 2 Base-emitter voltage as a function of collector current; typical values.



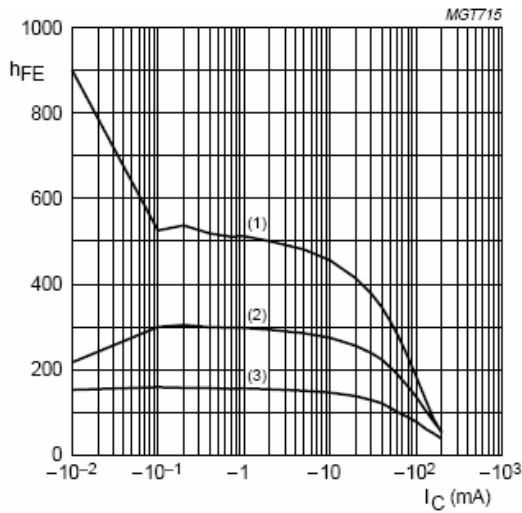
BC857A; $I_C/I_B = 20$.
 (1) $T_{amb} = 150\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = -55\text{ }^\circ\text{C}$.

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



BC857A; $I_C/I_B = 20$.
 (1) $T_{amb} = -55\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = 150\text{ }^\circ\text{C}$.

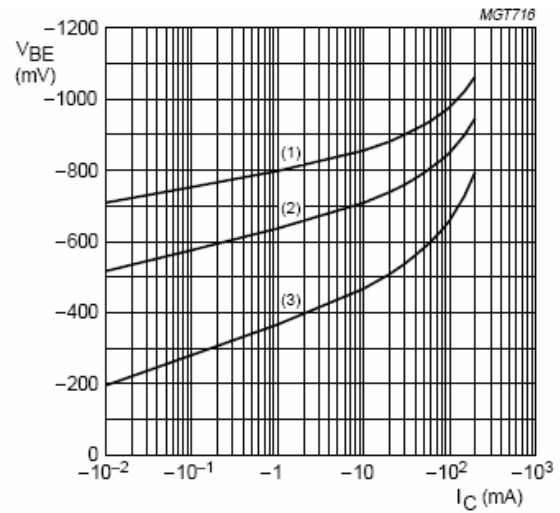
Fig. 4 Base-emitter saturation voltage as a function of collector current; typical values.



BC857B; $V_{CE} = -5\text{ V}$.

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

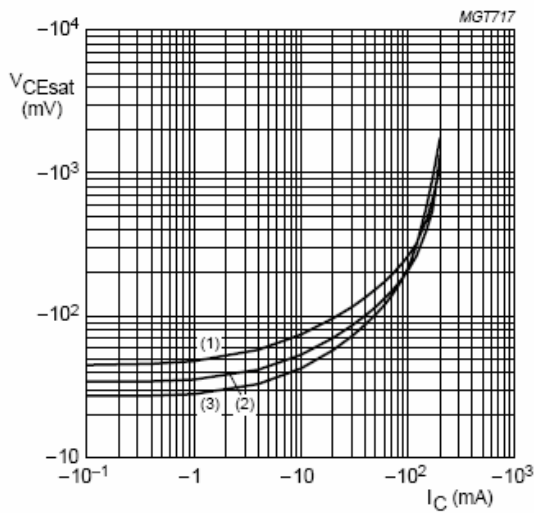
Fig.5 DC current gain as a function of collector current; typical values.



BC857B; $V_{CE} = -5\text{ V}$.

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

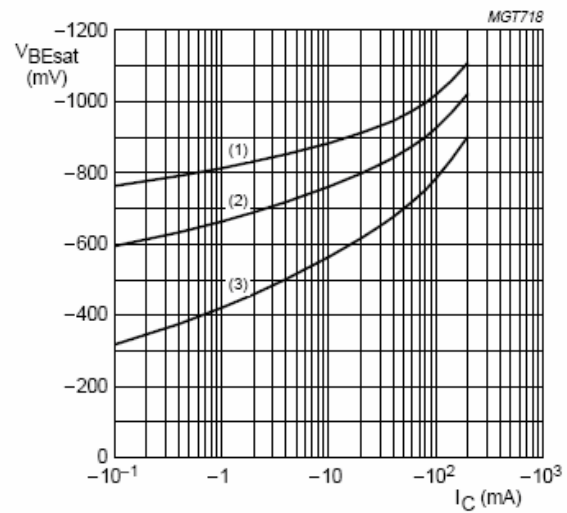
Fig.6 Base-emitter voltage as a function of collector current; typical values.



BC857B; $I_C/I_B = 20$.

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

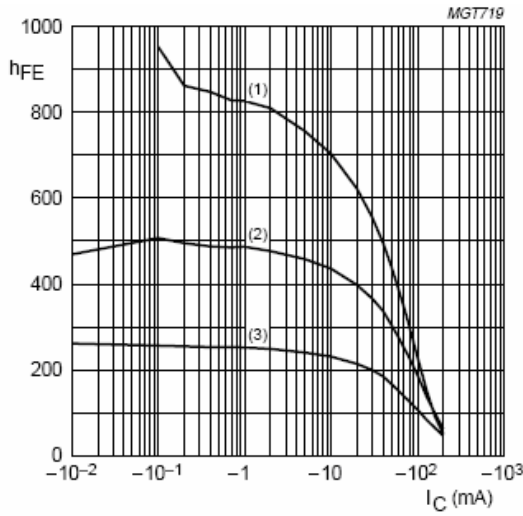
Fig.7 Collector-emitter saturation voltage as a



BC857B; $I_C/I_B = 20$.

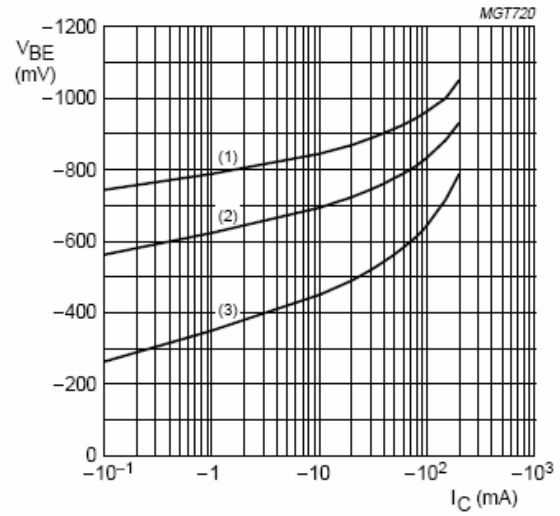
- (1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
- (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
- (3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

Fig.8 Base-emitter saturation voltage as a



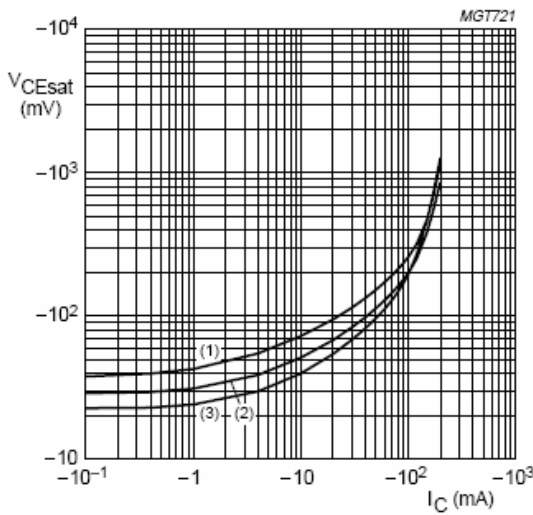
BC857C; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

Fig.9 DC current gain as a function of collector current; typical values.



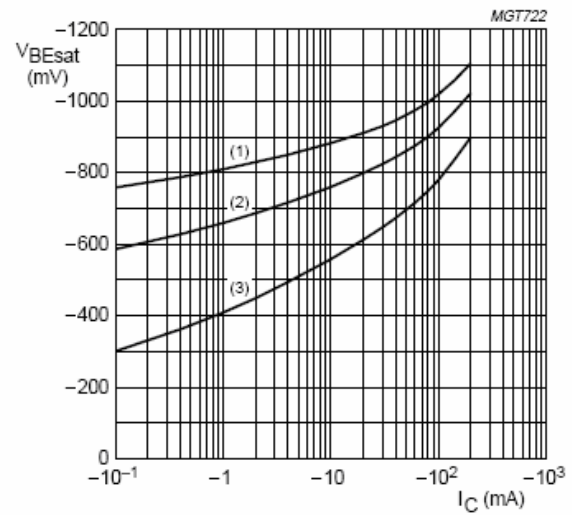
BC857C; $V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

Fig.10 Base-emitter voltage as a function of collector current; typical values.



BC857C; $I_C/I_B = 20$.
 (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.11 Collector-emitter saturation voltage as a function of collector current; typical values.



BC857C; $I_C/I_B = 20$.
 (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.12 Base-emitter saturation voltage as a function of collector current; typical values

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT-23	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220