



PNP General Purpose Transistor

BC856T/BC857T

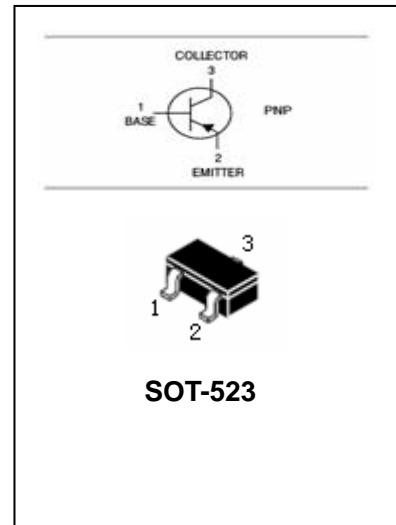
FEATURES

- Low current(max.100mA).
- Low voltage(max.65V).



APPLICATIONS

- General purpose switching and amplification,especially
In portable equipment.



ORDERING INFORMATION

Type No.	Marking	Package Code
BC856AT	3A	SOT-523
BC856BT	3B	SOT-523
BC857AT	3E	SOT-523
BC857BT	3F	SOT-523
BC857CT	3G	SOT-523

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Limits	Unit
V _{CBO}	collector-base voltage BC856AT; BC856BT	-80	V
	BC857AT; BC857BT; BC857CT	-50	
V _{CEO}	collector-emitter voltage BC856AT; BC856BT	-65	V
	BC857AT; BC857BT; BC857CT	-45	
V _{EBO}	emitter-base voltage	-5	V
I _C	collector current	-100	mA
I _{CM}	peak collector current	-200	mA
I _{BM}	peak base current	-100	mA
P _{tot}	Total power dissipation	150	mW
R _{θJA}	Thermal resistance, junction to Ambient	833	°C/W
T _{stg}	storage temperature range	-65 to +150	°C
T _j	junction temperature	150	°C

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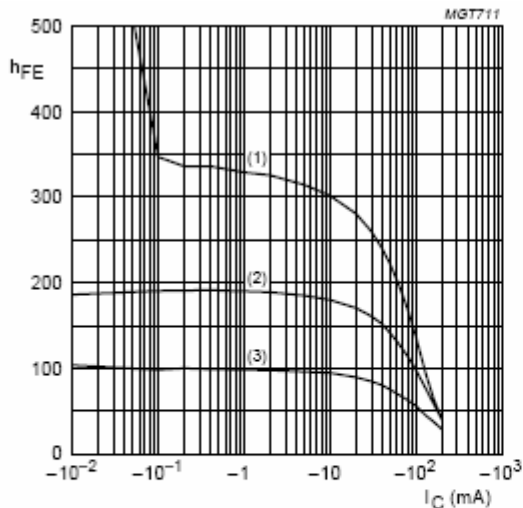
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
I _{CBO}	Collector cut-off current	I _E =0, V _{CB} =-30V			-15	nA
		I _E =0, V _{CB} =-30V, T _j =150°C			-5	uA
I _{EBO}	Emitter cut-off current	I _C =0, V _{EB} =-5V			-100	nA
h _{FE}	DC current gain BC856AT; BC856BT BC857AT; BC857BT BC857CT	V _{CE} =-5V, I _C =-2mA	125	-	250	
			220	-	475	
			420	-	800	
V _{CE(sat)}	collector-emitter saturation voltage	I _C =-10mA, I _B =-0.5mA			-200	mV
		I _C =-100mA, I _B =-5mA(note1)			-400	mV
V _{BE}	Base- emitter voltage	I _C =-2mA, V _{CE} =-5V	-580		-700	mV
		I _C =-10mA, V _{CE} =-5V			-770	mV
C _C	Collector capacitance	I _E =0, V _{CB} =-10V, f=1MHz			2.5	pF
C _e	Emitter capacitance	I _C =0, V _{EB} =-0.5V, f=1MHz		10		pF
F	Noise figure	I _C =200uA, V _{CE} =-5V, R _S =2kΩ, f=1kHz, B=200Hz			10	dB
f _T	transition frequency	I _C =-10mA, V _{CE} =-5V, f=100MHz	100			MHz

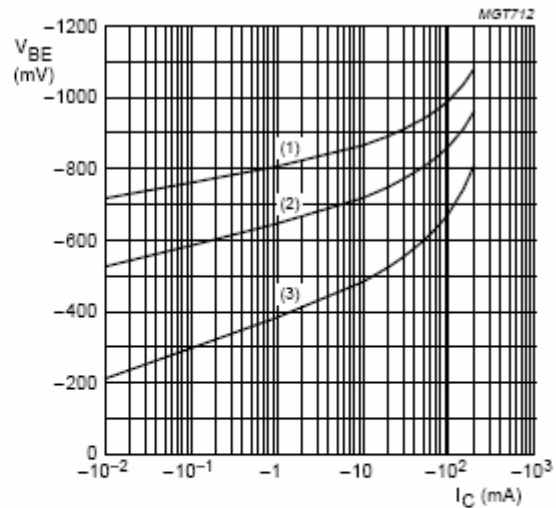
Note 1. Pulse test: t_p ≤ 300uS; δ ≤ 0.02

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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

Fig.2 DC current gain; typical values.

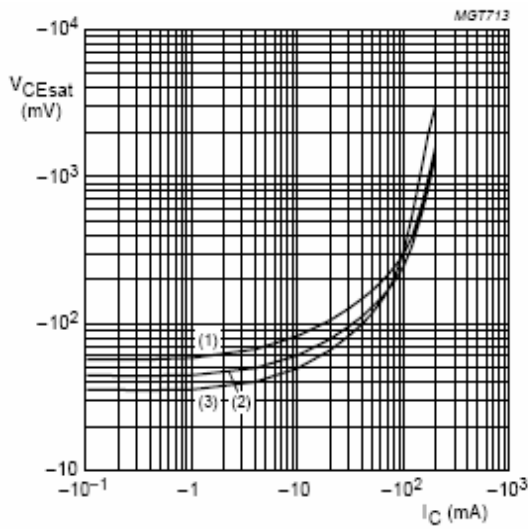


V_{CE} = -5 V.
(1) T_{amb} = -55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

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

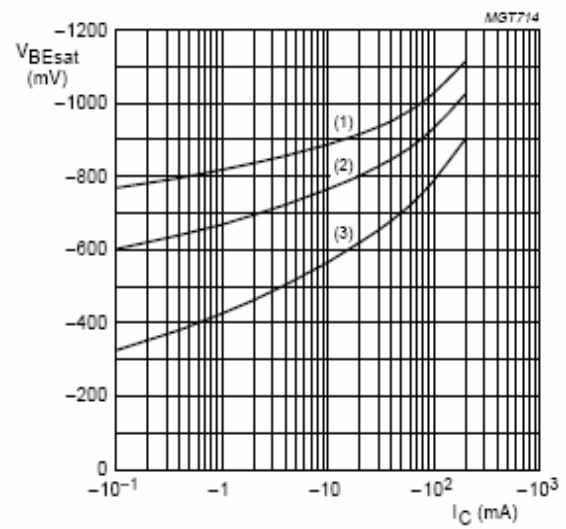
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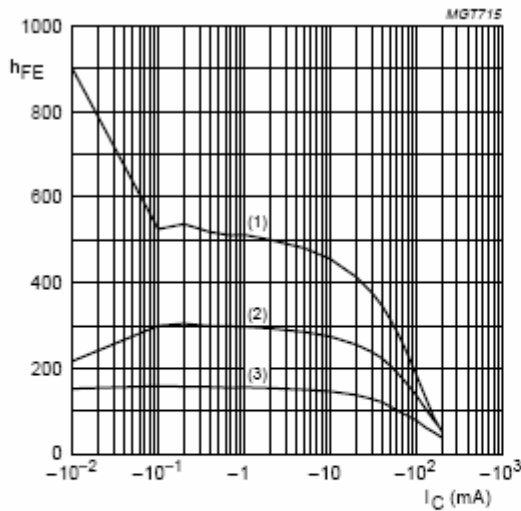
$I_C/I_B = 20$.
 (1) $T_{amb} = 150\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = -55\text{ }^\circ\text{C}$.

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



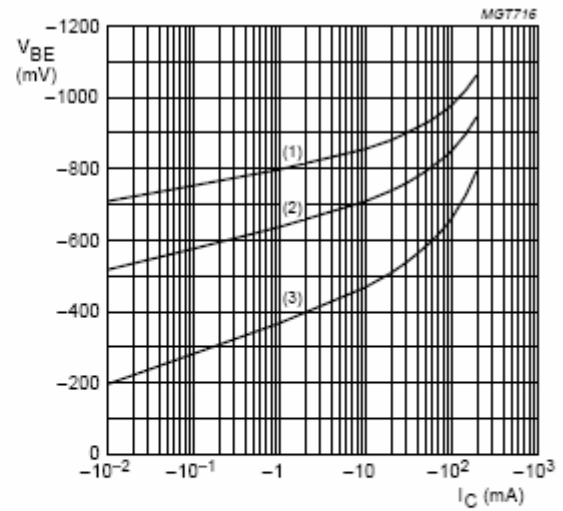
$I_C/I_B = 20$.
 (1) $T_{amb} = -55\text{ }^\circ\text{C}$.
 (2) $T_{amb} = 25\text{ }^\circ\text{C}$.
 (3) $T_{amb} = 150\text{ }^\circ\text{C}$.

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



$V_{CE} = -5\text{ V}$.
 (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.6 DC current gain; typical values.



$V_{CE} = -5\text{ V}$.
 (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.7 Base-emitter voltage as a function of collector current; typical values.



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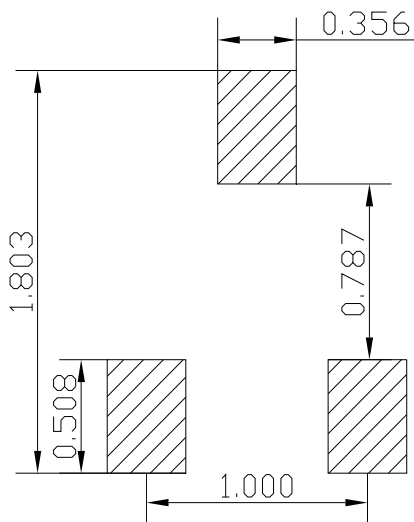
PACKAGE OUTLINE

Plastic surface mounted package

SOT-523

SOT-523		
Dim	Min	Max
A	1.5	1.7
B	0.75	0.85
C	0.6	0.8
D	0.15	0.3
G	0.9	1.1
H	0.02	0.1
J	0.1 Typical	
K	1.45	1.75
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BC856T/BC857T	SOT-523	3000/Tape&Reel