

BC856A,B BC857A,B,C BC858A,B,C

0.2 Watts PNP Plastic-Encapsulate Transistors

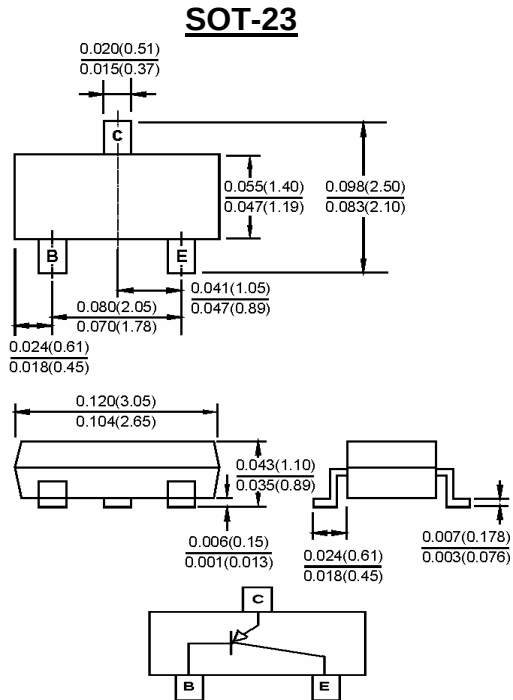


Features

- ✧ Ideally suited for automatic insertion
- ✧ Epitaxial planar die construction
- ✧ For switching, AF driver and amplifier applications
- ✧ Complementary PNP type available(BC846)
- ✧ Qualified to AEC-Q101 standards for high reliability

Mechanical Data

- ✧ Case: SOT-23, Molded plastic
- ✧ Case material: molded plastic. UL flammability classification rating 94V-0
- ✧ Moisture sensitivity: Level 1 per J-STD-020C
- ✧ Terminals: Solderable per MIL-STD-202, Method 208
- ✧ Lead free plating
- ✧ Marking & Polarity: See diagram
- ✧ Weight: 0.008 gram (approx.)



Dimensions in inches and (millimeters)

Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise specified

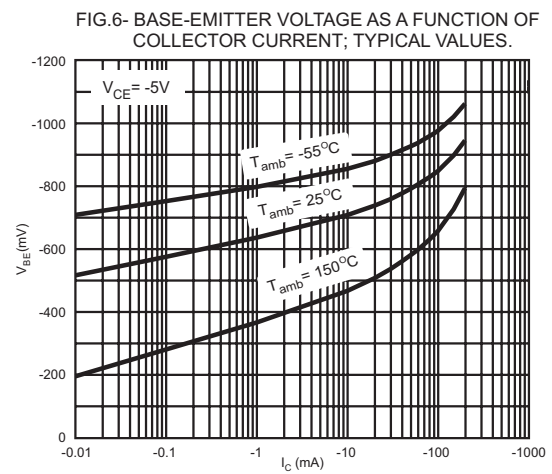
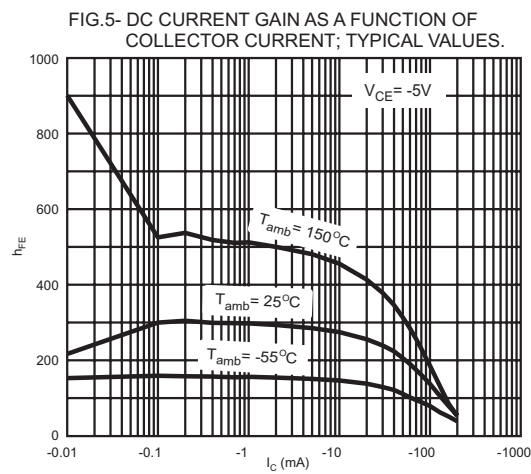
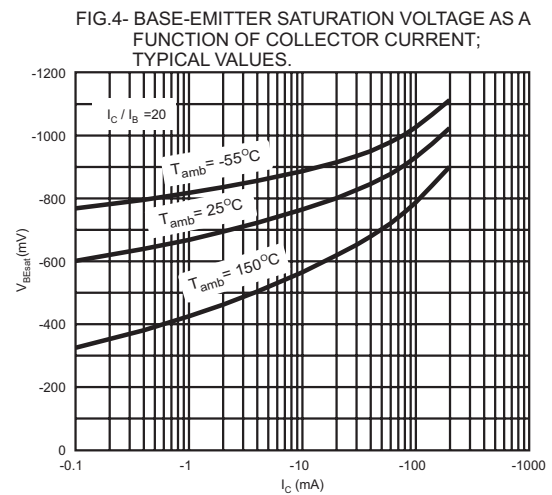
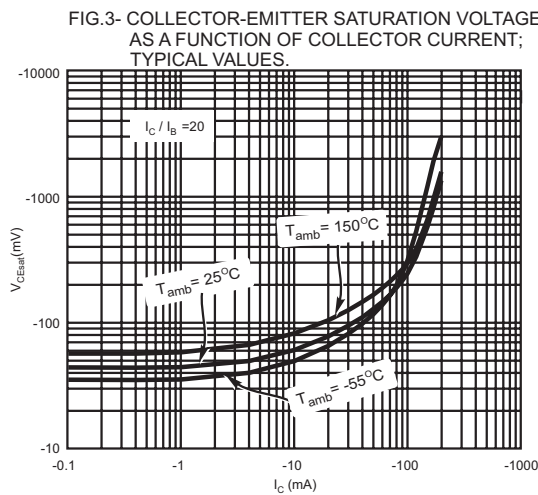
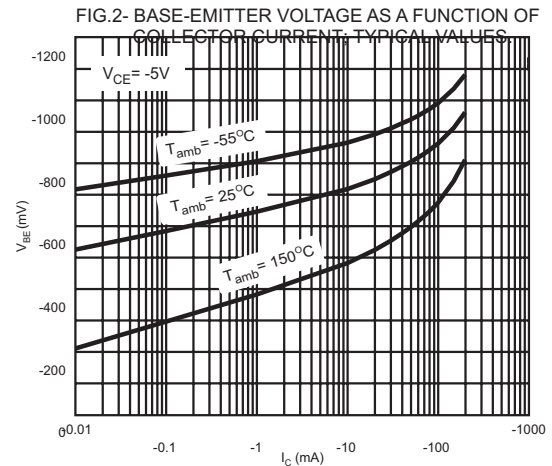
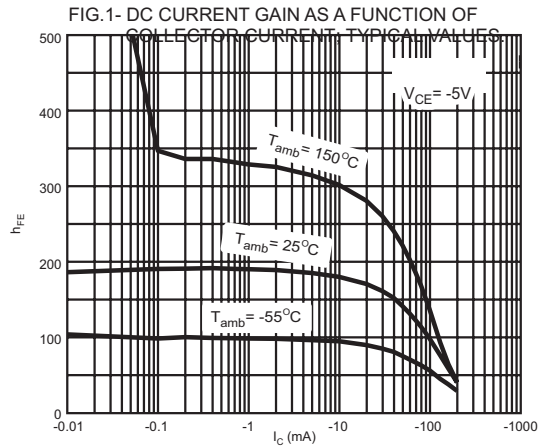
Type Number	Symbol	BC856	BC857	BC858	Units
Collector-base breakdown voltage $I_C=10\mu\text{A}$, $I_E=0$	V_{CBO}	-80	-50	-30	V
Collector-emitter breakdown voltage $I_C=10\text{mA}$, $I_B=0$	V_{CEO}	-65	-45	-30	V
Collector current	I_{CM}	-0.1			A
Power dissipation ($T_{amb}=25^\circ\text{C}$) (Note 1)	P_{CM}	0.2			W
Emitter-base breakdown voltage $I_E=10\mu\text{A}$, $I_C=0$	V_{EBO}	-5			V
Collector cut-off current $V_{CB}=-70\text{V}$ $I_E=0$ $V_{CB}=-45\text{V}$ $I_E=0$ $V_{CB}=-25\text{V}$ $I_E=0$	I_{CBO}	-0.1	-0.1	-0.1	μA
Collector cut-off current $V_{CE}=-60\text{V}$ $I_B=0$ $V_{CE}=-40\text{V}$ $I_B=0$ $V_{CE}=-25\text{V}$ $I_B=0$	I_{CEO}	-0.1	-0.1	-0.1	μA
Emitter cut-off current $V_{EB}=-5\text{V}$ $I_C=0$	I_{EBO}	-0.1			μA
Collector-emitter saturation voltage $I_C=-100\text{mA}$, $I_B=-5\text{mA}$	$V_{CE}(\text{Sat})$	-0.5			V
Base-emitter saturation voltage $I_C=-100\text{mA}$, $I_B=-5\text{mA}$	$V_{BE}(\text{Sat})$	-1.1			V
Transition frequency $V_{CE}=-5\text{V}$ $I_C=-10\text{mA}$ $f=100\text{MHz}$	f_T	100			MHz
Operating and Storage Temperature Range	T_J , T_{STG}	-55 to +150			$^\circ\text{C}$
Type Number	Symbol	Min	Max	Units	
DC current gain BC846A,847A,848A	$H_{FE(1)}$	125	250		
BC846B,847B,848B $V_{CE}=-5\text{V}$ $I_C=-2\text{mA}$		220	475		
BC847C / BC848C		420	800		

DEVICE MARKING

BC856A=3A, BC856B=3B, BC857A=3E, BC857B=3F, BC857C=3G, BC858A=3J, BC858B=3K, BC858C=3L

Note 1: Transistor mounted on an FR4 Printed-circuit board.

RATINGS AND CHARACTERISTIC CURVES (BC856A,B/ BC857A,B,C/ BC858A,B,C)



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FIG.7- COLLECTOR-EMITTER SATURATION VOLTAGE AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

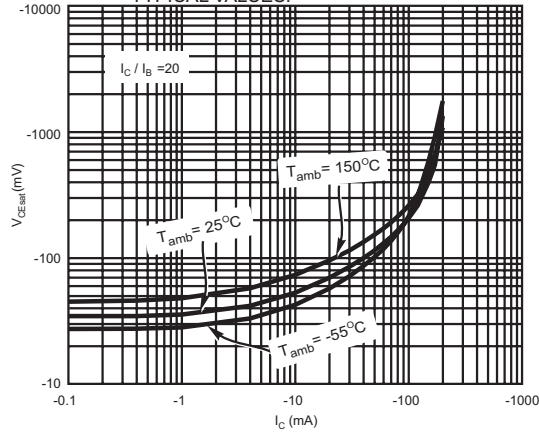


FIG.8- BASE-EMITTER SATURATION VOLTAGE AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

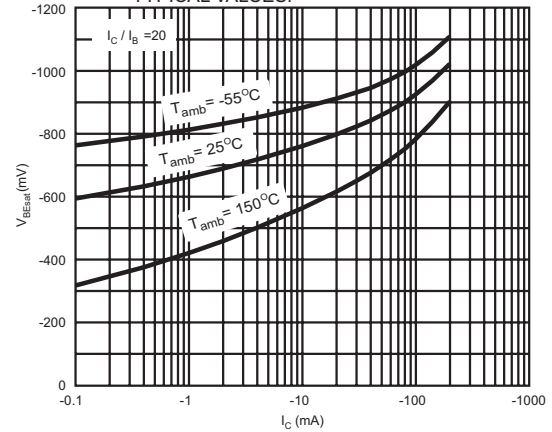


FIG.9- DC CURRENT GAIN AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

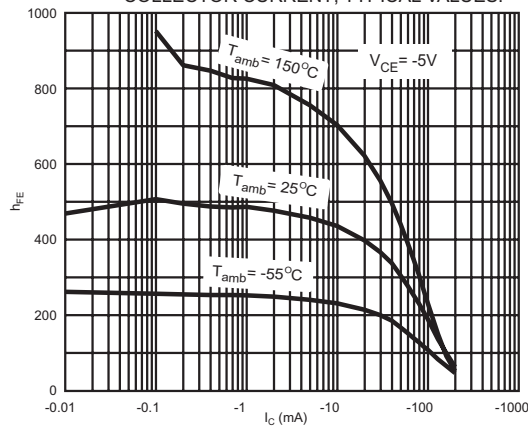


FIG.10- BASE-EMITTER VOLTAGE AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

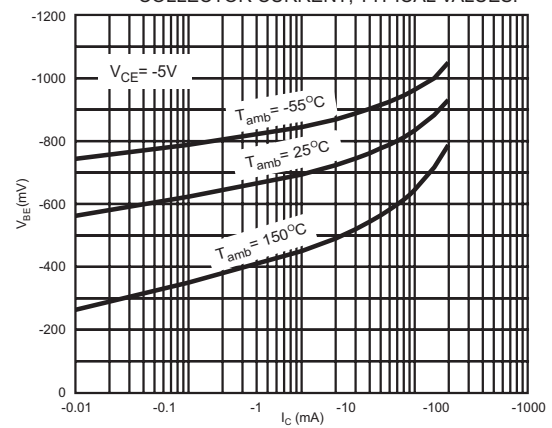


FIG.11- COLLECTOR-EMITTER SATURATION VOLTAGE AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

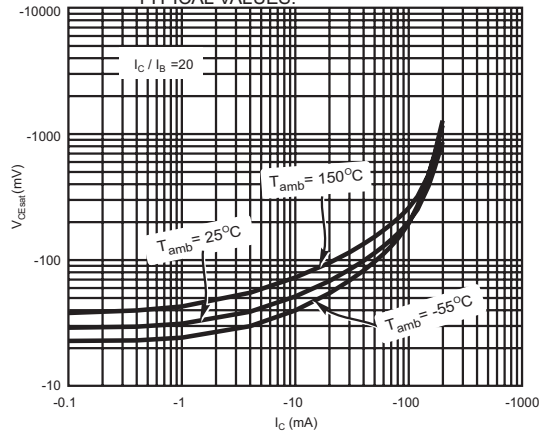


FIG.12- BASE-EMITTER SATURATION VOLTAGE AS A FUNCTION OF COLLECTOR CURRENT; TYPICAL VALUES.

