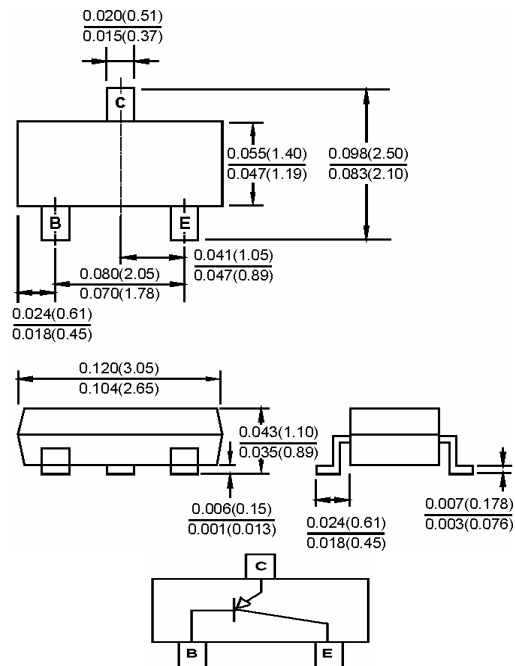



**SOT-23**
**Features**

- ✧ Ideally suited for automatic insertion
- ✧ Epitaxial planar die construction
- ✧ For switching, AF driver and amplifier applications
- ✧ Complementary PNP type available(BC846)

**Mechanical Data**

- ✧ Case: SOT-23, Molded plastic
- ✧ Case material: molded plastic. UL flammability classification rating 94V-0
- ✧ Lead free plating
- ✧ Weight: 0.008 gram (approx.)



Dimensions in inches and (millimeters)

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

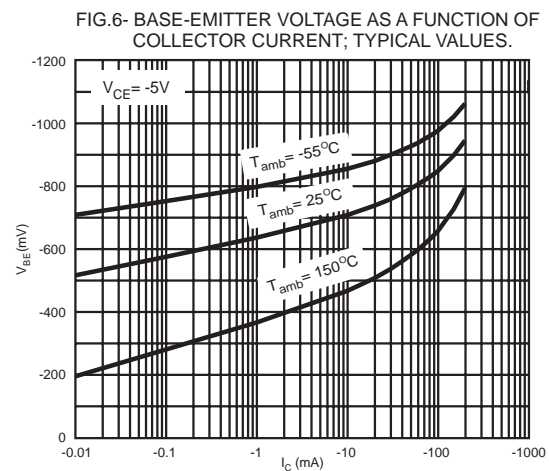
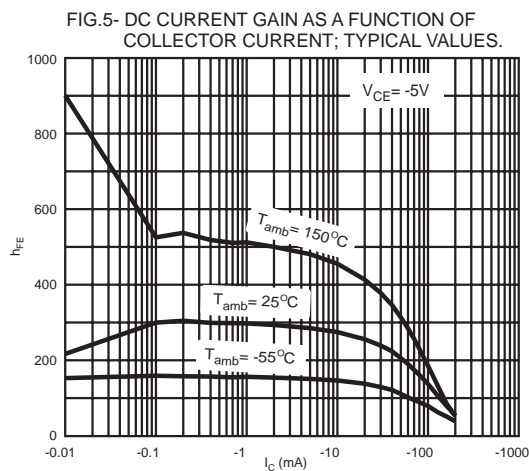
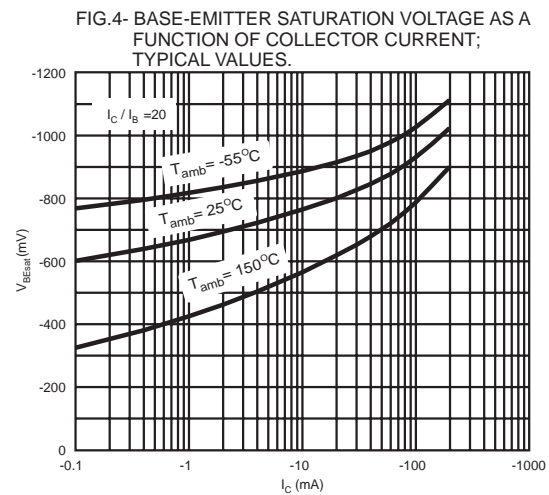
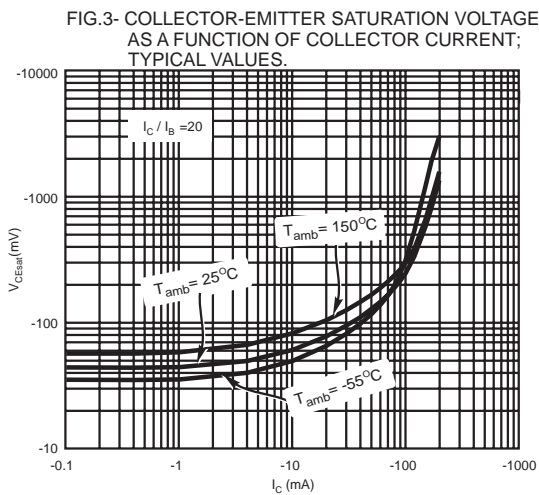
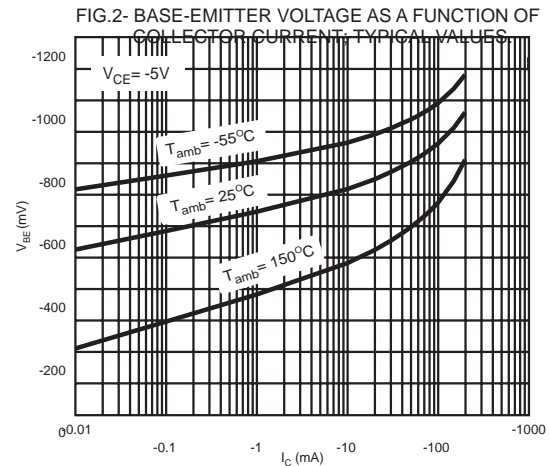
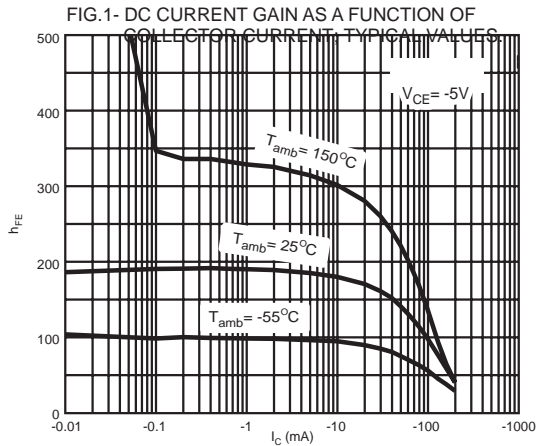
Type Number	Symbol	BC856	BC857	BC858	Units
Collector-base breakdown voltage $I_C=10\mu\text{A}, I_E=0$	$V_{CBO}$	-80	-50	-30	V
Collector-emitter breakdown voltage $I_C=10\text{mA}, I_B=0$	$V_{CEO}$	-65	-45	-30	V
Collector current	$I_{CM}$		-0.1		A
Power dissipation ( $T_{amb}=25^\circ\text{C}$ ) (Note 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 $V_{CB}=-70\text{V}, I_E=0$	$I_{CBO}$	-0.1	-0.1	-0.1	$\mu\text{A}$
$V_{CB}=-45\text{V}, I_E=0$					
$V_{CB}=-25\text{V}, I_E=0$					
Collector cut-off current $V_{CE}=-60\text{V}, I_B=0$	$I_{CEO}$	-0.1	-0.1	-0.1	$\mu\text{A}$
$V_{CE}=-40\text{V}, I_B=0$					
$V_{CE}=-25\text{V}, I_B=0$					
Emitter cut-off current $V_{EB}=-5\text{V}, I_C=0$	$I_{EBO}$		-0.1		$\mu\text{A}$
Collector-emitter saturation voltage $I_C=-100\text{mA}, I_B=-5\text{mA}$	$V_{CE(sat)}$		-0.5		V
Base-emitter saturation voltage $I_C=-100\text{mA}, I_B=-5\text{mA}$	$V_{BE(sat)}$		-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		

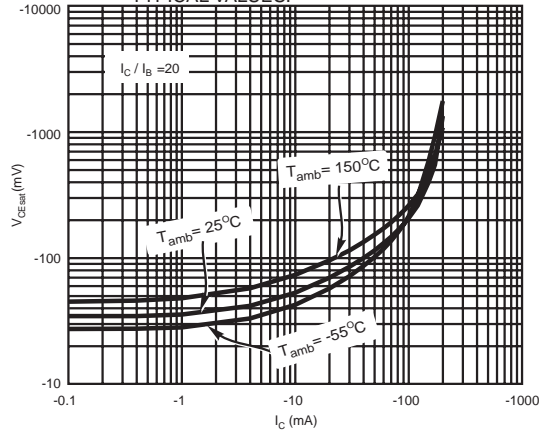
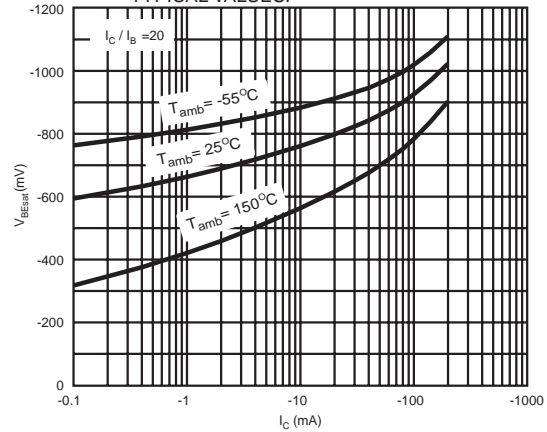
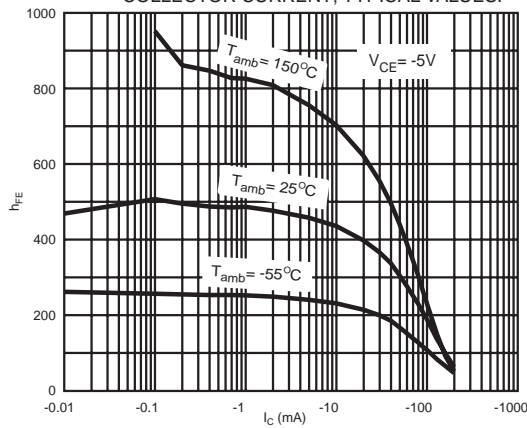
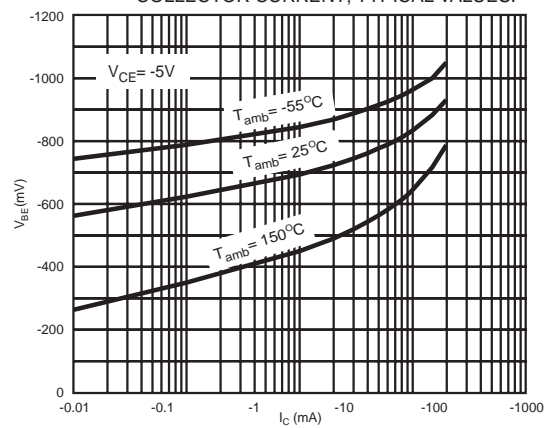
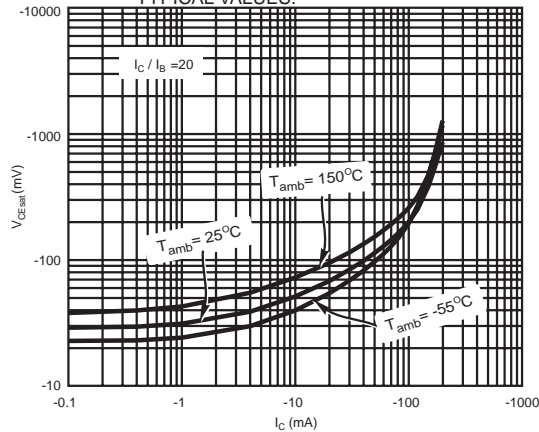
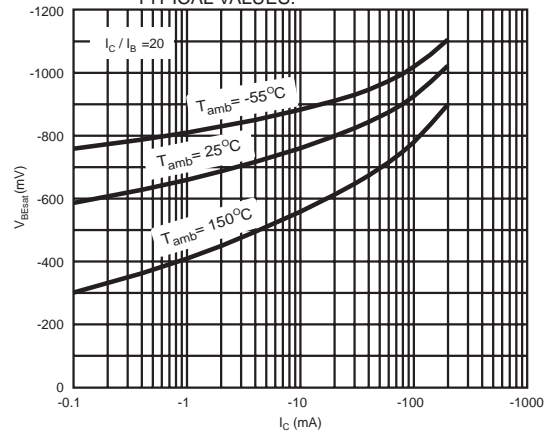
**DEVICE MARKING**

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)



**RATINGS AND CHARACTERISTIC CURVES (BC856 A,B/ BC857A,B,C/ BC858A,B,C)**
**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.**


PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SOT-23	3000/REEL	90000	40X20X22	5.00	4.00