



DATA SHEET

BC856 SERIES

PNP GENERAL PURPOSE TRANSISTORS

VOLTAGE 65/45/30 Volts **POWER** 225 mW

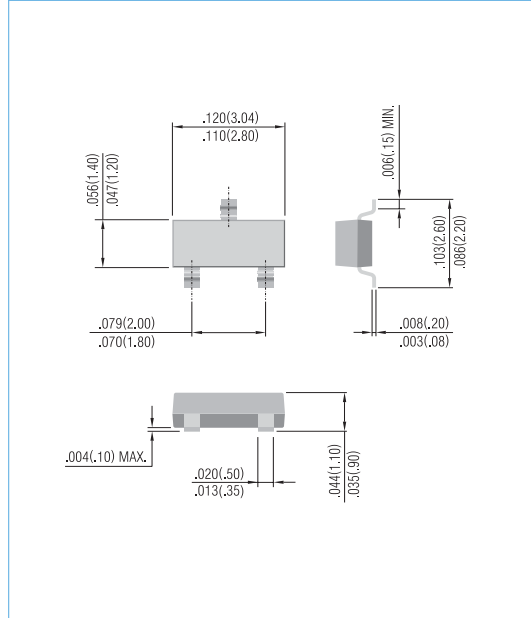
FEATURES

General Purpose Amplifier Applications
 NPN Epitaxial Silicon, Planar Design
 Collector Current $I_C = -100\text{mA}$
 Complimentary (PNP) Devices : BC846/BC847/BC848/BC849 Series
 In compliance with EU RoHS 2002/95/EC directives

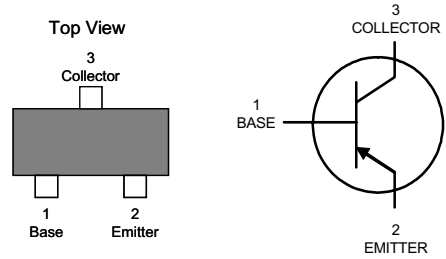
MECHANICAL DATA

Case: SOT-23
 Terminals : Solderable per MIL-STD-750,Method 2026
 Approx Weight: 0.008 grams
 Device Marking :

SOT-23 Unit: inch (mm)



BC856A=56A	BC857A=57A	BC858A=58A	
BC856B=56B	BC857B=57B	BC858B=58B	BC859B=59B
	BC857C=57C	BC858C=58C	BC859C=59C



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	BC856	BC857	BC858	BC859	UNITS
Collector-Emitter Voltage	V_{CE0}	-65	-45	-30		V
Collector-Base Voltage	V_{CB0}	-80	-50	-30		V
Emitter-Base Voltage	V_{EB0}		-5			V
Collector Current-Continuous	I_C		-100			mA
Max Power Dissipation (Note 1)	P_{TOT}		225			mW
Operating Junction and Storage Temperature Range	T_J, T_{STG}		-50 TO +150			°C



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THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	Value	UNIT
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}\text{C}/\text{W}$

Note 1: Transistor mounted on FR-5 board 1.0 x 0.75 x 0.062 in. Minimum pad layout.

ELECTRICAL CHARACTERISTICS ($T_J=25\text{ C. unless otherwise noted}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector - Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_B=0$)	BC856A,B	-65	-	-	V
	BC857A,B,C	$V_{(BR)CEO}$ -45	-	-	
	BC858A,B,C, BC859B,C	-30	-	-	
Collector - Base Breakdown Voltage ($I_C=10\mu\text{A}$, $I_E=0$)	BC856A,B	-80	-	-	V
	BC857A,B,C	$V_{(BR)CBO}$ -50	-	-	
	BC858A,B,C, BC859B,C	-30	-	-	
Emitter - Base Breakdown Voltage ($I_E=-1\mu\text{A}$, $I_C=0$)	$V_{(BR)EBO}$	-5.0	-	-	V
Emitter-Base Cutoff Current ($V_{EB}=-5\text{V}$)	I_{EBO}	-	-	-100	nA
Collector-Base Cutoff Current ($V_{CB}=-30\text{V}$, $I_E=0$)	I_{CBO}	-	-	-15	nA
		$T_J=150\text{ }^{\circ}\text{C}$	-	-	-4.0
DC Current Gain ($I_C=10\mu\text{A}$, $V_{CE}=5\text{V}$)	BC856A, BC857A, BC858A	-	90	-	-
	BC856B, BC857B, BC858B, BC859B	-	150	-	
	BC857C, BC858C, BC859C	-	270	-	
	h_{FE}				
($I_C=2.0\text{mA}$, $V_{CE}=5\text{V}$)	BC856A, BC857A, BC858A	110	180	220	
	BC856B, BC857B, BC858B, BC859B	200	290	450	
	BC857C, BC858C, BC859C	420	520	800	
	h_{FE}				
Collector – Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_B=0.5\text{mA}$)	$V_{CE(SAT)}$	-	-	-0.3	V
		($I_C=100\text{mA}$, $I_B=5.0\text{mA}$)	-	-	
Base – Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_B=0.5\text{mA}$)	$V_{BE(SAT)}$	-	-0.7	-	V
		($I_C=100\text{mA}$, $I_B=5.0\text{mA}$)	-	-0.9	
Base – Emitter On Voltage ($I_C=2.0\text{mA}$, $V_{CE}=5.0\text{V}$)	$V_{BE(ON)}$	-0.60	-	-0.75	V
		($I_C=10\text{mA}$, $V_{CE}=5.0\text{V}$)	-	-	
Collector - Base Capacitance ($V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{CB}	-	-	4.5	pF
Current-Gain - Bandwidth Product ($I_C=10\text{mA}$, $V_{CE}=5.0\text{V}$, $f=100\text{MHz}$)	F_T	-	200	-	MHz



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ELECTRICAL CHARACTERISTICS CURVES

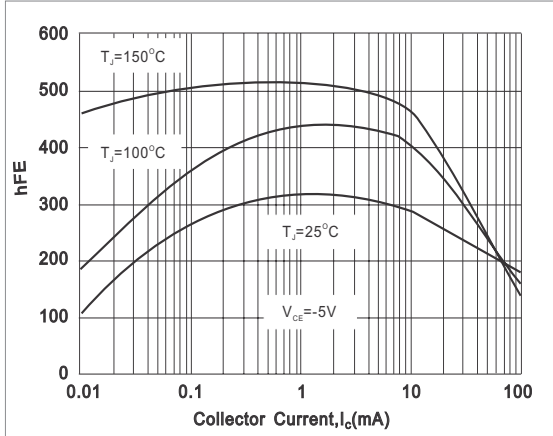


Fig.1- TYPICAL h_{FE} vs. Collector Current

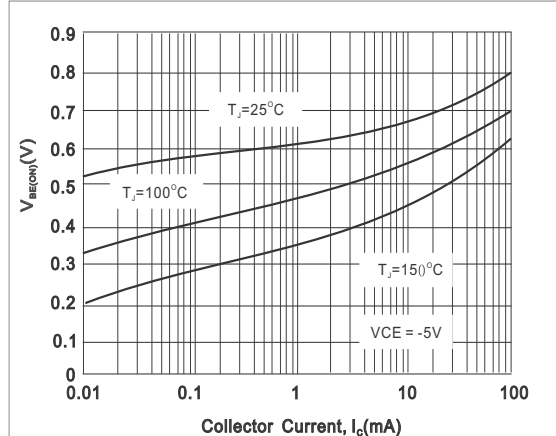


Fig.2- TYPICAL $V_{BE(ON)}$ vs. Collector Current

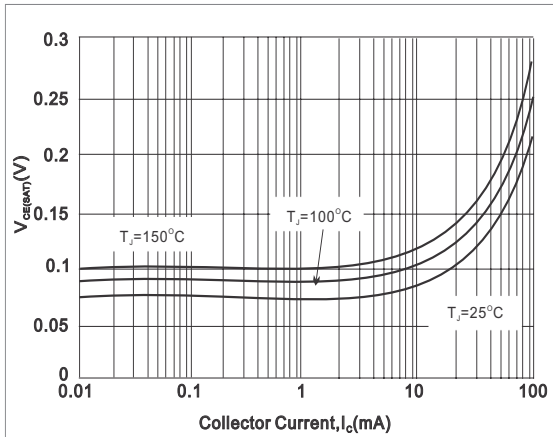


Fig.3- TYPICAL $V_{CE(SAT)}$ vs. Collector Current

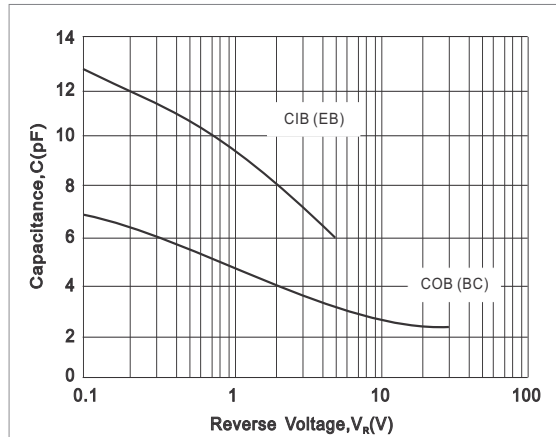
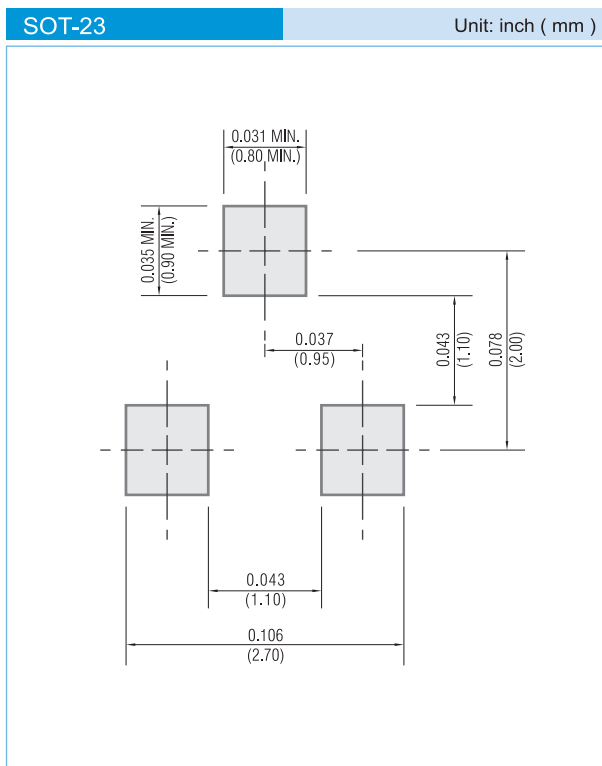


Fig.4- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE



BC856 SERIES

MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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