

BC856AW ~ BC859CW

PNP GENERAL PURPOSE TRANSISTORS

VOLTAGE 30/45/65 Volts **POWER** 250 mWatts

SOT-323 Unit : inch(mm)

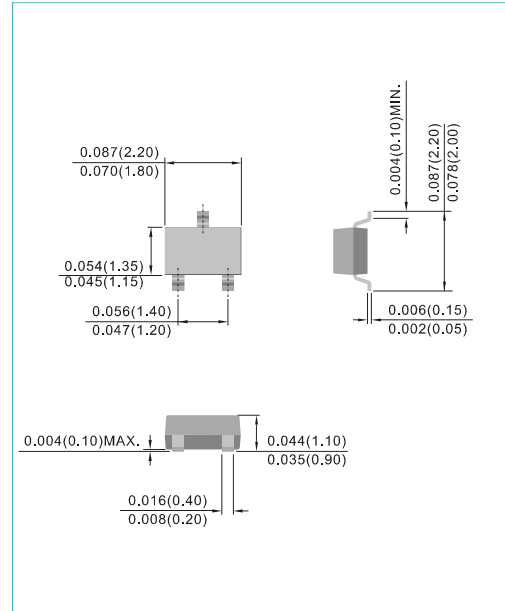
FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Collector current $I_C = 100\text{mA}$
- Complimentary (NPN) Devices : BC846AW/BC847AW/BC848AW/BC849BW Series
- Lead free in comply with EU RoHS 2011/65/EU directives
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0002 ounce, 0.005 gram

Device Marking:			
BC856AW=56A	BC857AW=57A	BC858AW=58A	
BC856BW=56B	BC857BW=57B	BC858BW=58B	BC859BW=59B
	BC857CW=57C	BC858CW=58C	BC859CW=59C



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	-65 -45 -30 -30	V
Collector - Base Voltage	V_{CBO}	-80 -50 -30 -30	V
Emitter - Base Voltage	V_{EBO}	6 6 -5 -5	V
Collector Current - Continuous	I_C	-100	mA
Max. Power Dissipation (Note 1)	P_{TOT}	250	mW
Storage Temperature Range	T_{STG}	-55 to 150	°C
Junction Temperature Range	T_J	-55 to 150	°C

Note : 1. Transistor mounted on FR-5 board 1 x 0.75 x 0.062 in.

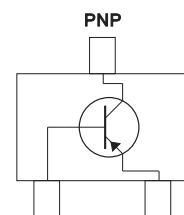


Fig.35

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THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Thermal Resistance (Note 2) (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	500 200	$^{\circ}\text{C/W}$

Note : 2.Mounted on an FR4 PCB, single-sided copper, mini pad.

3.Mounted on an FR4 PCB, single-sided copper, with 100cm² copper pad area

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

PARAMETER	Symbol	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage ($I_C=-10\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$	-65 -45 -30	-	-	V
Collector - Base Breakdown Voltage ($I_C=-10\mu\text{A}$, $I_E=0$)	$V_{(BR)CBO}$	-80 -50 -30	-	-	V
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 -4.0	nA μA
DC Current Gain ($I_C=-10\mu\text{A}$, $V_{CE}=-5\text{V}$)	h_{FE}	-	90 150 270	-	-
DC Current Gain ($I_C=-2.0\text{mA}$, $V_{CE}=-5\text{V}$)	h_{FE}	110 200 420	180 290 520	220 450 800	-
Collector - Emitter Saturation Voltage ($I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$) ($I_C=-100\text{mA}$, $I_B=-5.0\text{mA}$)	$V_{CE(SAT)}$	- -	- -	-0.3 -0.65	V
Base - Emitter Saturation Voltage ($I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$) ($I_C=-100\text{mA}$, $I_B=-5.0\text{mA}$)	$V_{BE(SAT)}$	- -	-0.7 -0.9	- -	V
Base - Emitter Voltage ($I_C=-2\text{mA}$, $V_{CE}=-5.0\text{V}$) ($I_C=-10\text{mA}$, $V_{CE}=-5.0\text{V}$)	$V_{BE(ON)}$	-0.60 -	- -	-0.75 -0.82	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.	-	200	-	MHz

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ELECTRICAL CHARACTERISTICS CURVES

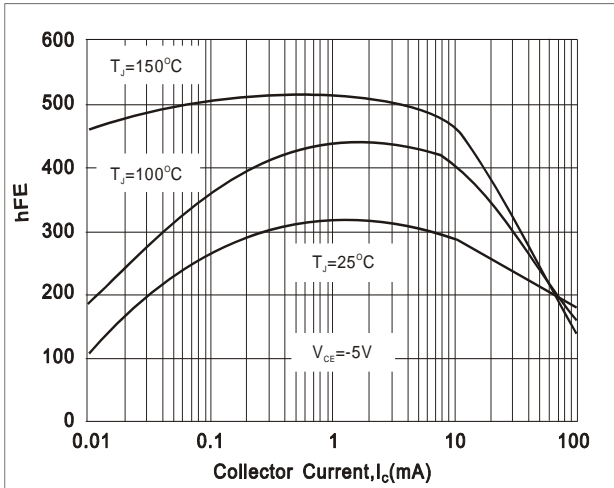


Fig.1- TYPICAL h_{FE} vs. Collector Current

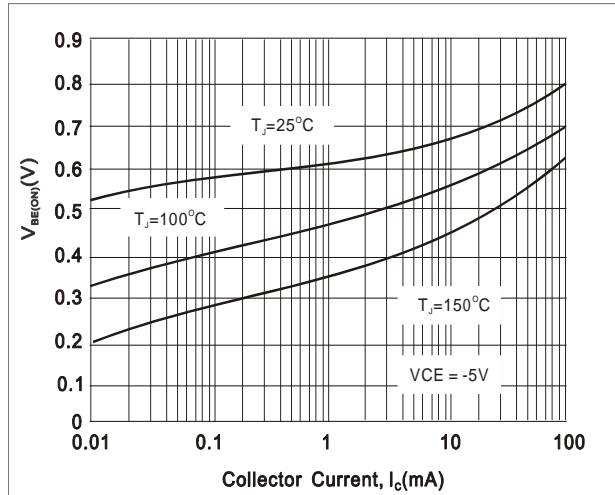


Fig.2- TYPICAL $V_{BE(ON)}$ vs. Collector Current

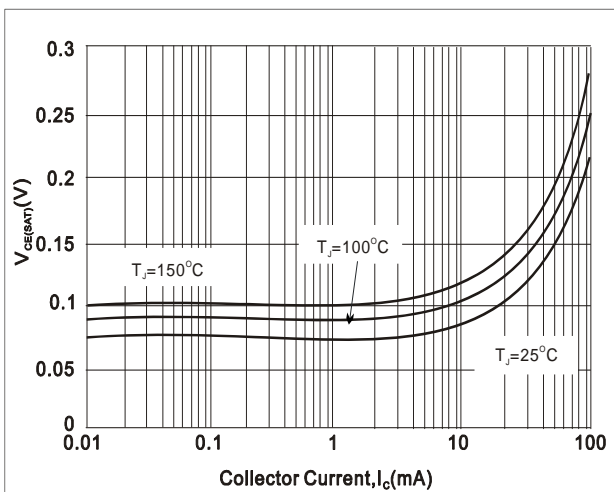


Fig.3- TYPICAL $V_{CE(SAT)}$ vs. Collector Current

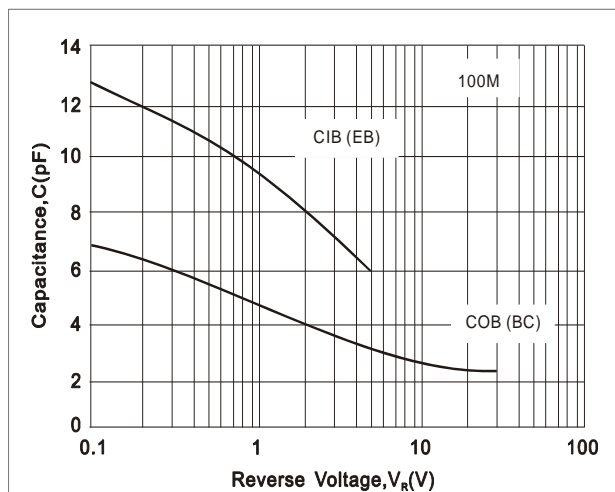


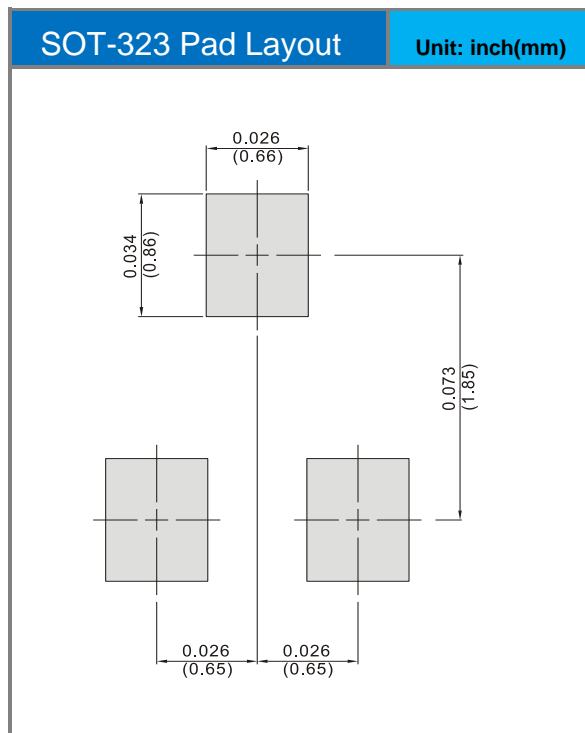
Fig.4- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
BC85xxW	SOT-323	3K pcs / 7" reel	See Table
BC85xxW	SOT-323	12K pcs / 13" reel	See Table

Mounting Pad Layout



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