



BC856BW-AU ~ BC857CW-AU

PNP GENERAL PURPOSE TRANSISTORS

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

SOT-323

Unit : inch(mm)

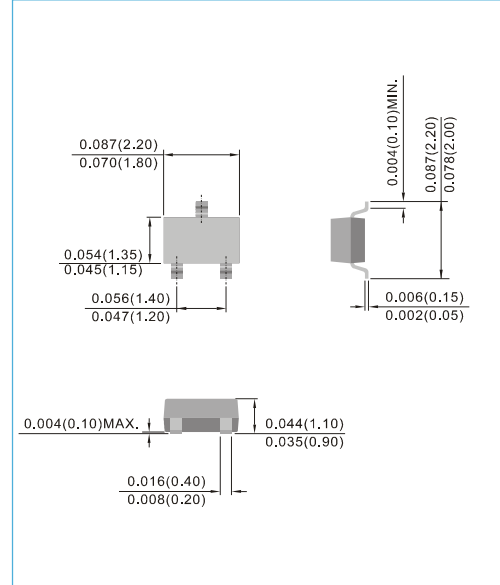
FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Collector current $I_C = 100\text{mA}$
- Complimentary (NPN) Devices : BC856BW-AU/BC857AW-AU Series
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- 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:	Device Marking:
	BC857AW-AU=57A
BC856BW-AU=56B	BC857BW-AU=57B
	BC857CW-AU=57C



ABSOLUTE MAXIMUM RATINGS

PARAMETER	Symbol	Value	Units
Collector - Emitter Voltage BC856BW-AU BC857AW-AU/BW-AU/CW-AU	V_{CEO}	-65 -45	V
Collector - Base Voltage BC856BW-AU BC857AW-AU/BW-AU/CW-AU	V_{CBO}	-80 -50	V
Emitter - Base Voltage BC856BW-AU BC857AW-AU/BW-AU/CW-AU	V_{EBO}	6 6	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.

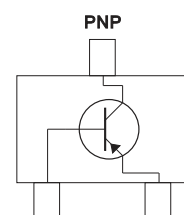


Fig.35



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THERMAL CHARACTERISTICS

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

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 ($I_C=-10\text{mA}$, $I_B=0$)	BC856BW-AU BC857AW-AU/BW-AU/CW-AU $V_{(BR)CEO}$	-65 -45	-	-	V
Collector - Base Breakdown Voltage ($I_C=-10\mu\text{A}$, $I_E=0$)	BC856BW-AU BC857AW-AU/BW-AU/CW-AU $V_{(BR)CBO}$	-80 -50	-	-	V
Emitter-Base Breakdown Voltage ($I_E=-1\mu\text{A}$, $I_C=0$)	$V_{(BR)EBO}$	-5	-	-	V
Emitter-Base Cutoff Current ($V_{EB}=-5\text{V}$)	I_{EBO}	-	-	-100	nA
Collector-Base Cutoff Current ($V_{CB}=-30\text{V}$, $I_E=0$)	$T_J=25^{\circ}\text{C}$ $T_J=150^{\circ}\text{C}$ I_{CBO}	-	-	-15 -4	nA μA
DC Current Gain ($I_C=-10\mu\text{A}$, $V_{CE}=-5\text{V}$)	BC857AW-AU BC856BW-AU/BC857BW-AU BC857CW-AU h_{FE}	-	90 150 270	-	-
DC Current Gain ($I_C=-2.0\text{mA}$, $V_{CE}=-5\text{V}$)	BC857AW-AU BC856BW-AU/BC857BW-AU BC857CW-AU 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

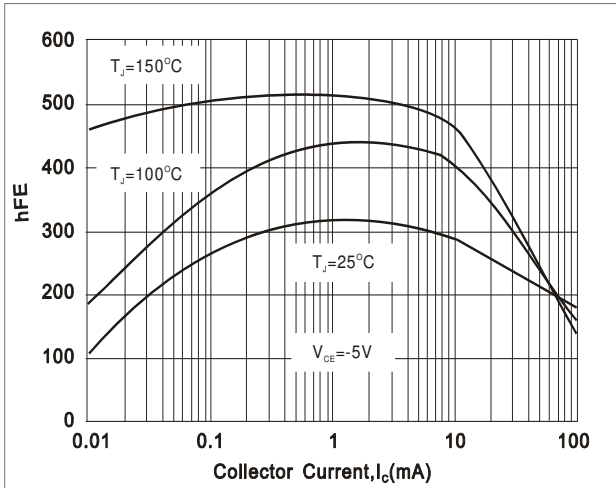


Fig.1- TYPICAL h_{FE} vs. Collector Current

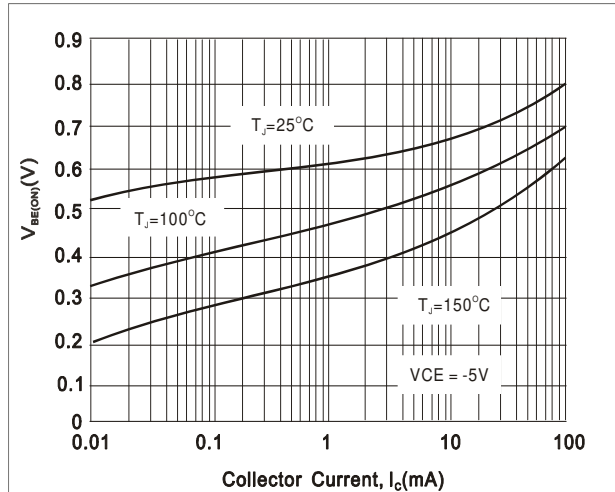


Fig.2- TYPICAL $V_{BE(ON)}$ vs. Collector Current

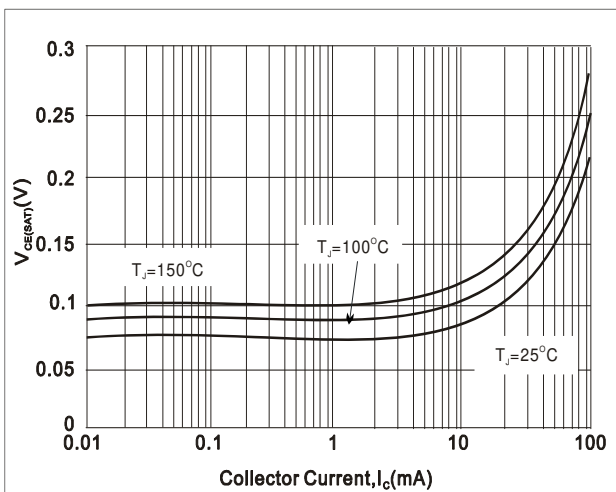


Fig.3- TYPICAL $V_{CE(SAT)}$ vs. Collector Current

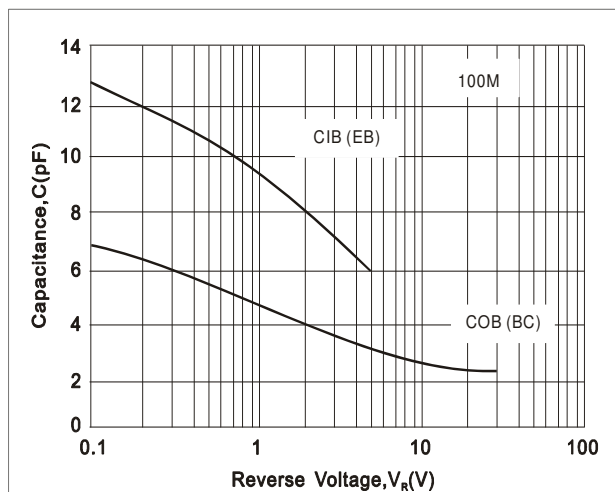
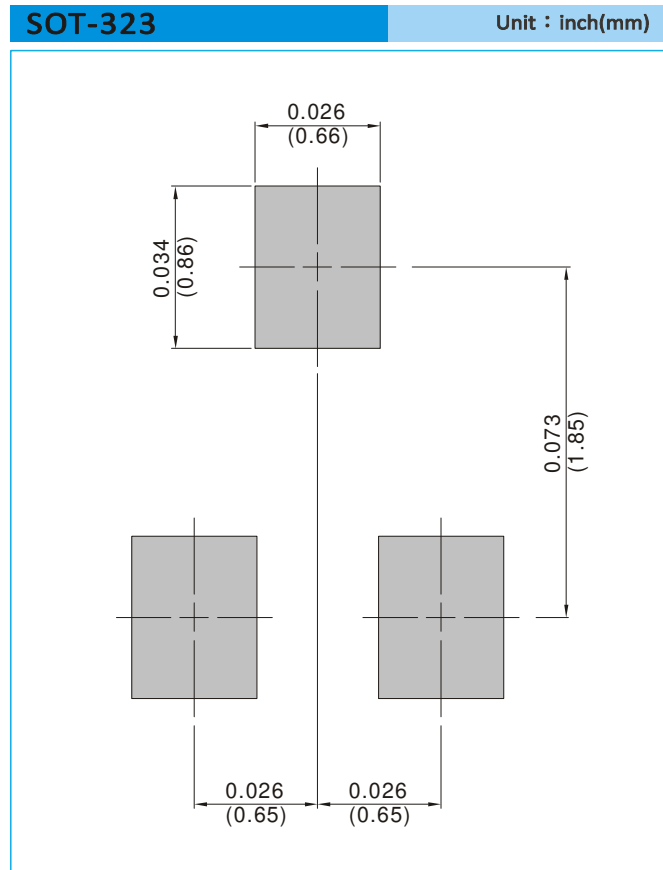


Fig.4- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE



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MOUNTING PAD LAYOUT



ORDER INFORMATION

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



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Part No_packing code_Version

BC856BW-AU_R1_000A1

BC856BW-AU_R2_000A1

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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