



BC856-AU,BC857-AU,BC858-AU,BC859-AU SERIES

PNP GENERAL PURPOSE TRANSISTORS

VOLTAGE 30/45/65 Volts **POWER** 330 mWatts

FEATURES

- General Purpose Amplifier Applications
- Collector Current $I_C = -100\text{mA}$
- Complimentary (PNP) Devices : BC846/BC847/BC848/BC849 Series
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

Case: SOT-23

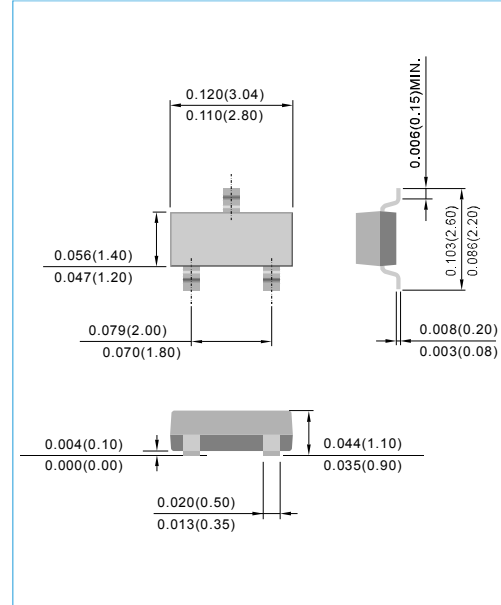
Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.008 gram

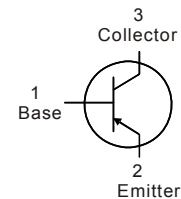
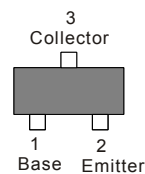
Marking:

Device Marking:			
BC856A-AU=56A	BC857A-AU=57A	BC858A-AU=58A	
BC856B-AU=56B	BC857B-AU=57B	BC858B-AU=58B	BC859B-AU=59B
	BC857C-AU=57C	BC858C-AU=58C	BC859C-AU=59C

SOT-23 Unit : inch(mm)



Top View



ABSOLUTE RATINGS

PARAMETER	Symbol	BC856-AU	BC857-AU	BC858-AU	BC859-AU	Units
Collector - Emitter Voltage	V_{CEO}	-65	-45	-30		V
Collector - Base Voltage	V_{CBO}	-80	-50	-30		V
Emitter - Base Voltage	V_{EBO}		-5			V
Collector Current - Continuous	I_C		-100			mA
Max Power Dissipation(Note1)	P_{TOT}		330			mW
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$		375			$^{\circ}\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}		-50 to 150			$^{\circ}\text{C}$

NOTES:

1. Transistor mounted on FR-4 board 8 cm^2 .



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ELECTRICAL CHARACTERISTICS

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage BC856A-AU/B-AU BC857A-AU/B-AU/C-AU BC858A-AU/B-AU/C-AU, BC859B-AU/C-AU	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-65 -45 -30	-	-	V
Collector - Base Breakdown Voltage BC856A-AU/B-AU BC857A-AU/B-AU/C-AU BC858A-AU/B-AU/C-AU, BC859B-AU/C-AU	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-80 -50 -30	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1.0\mu A, I_C = 0$	-5.0	-	-	V
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB} = -5V$	-	-	-100	nA
Collector-Base Cutoff Current	I_{CBO}	$V_{CB} = -30V, I_E = 0$ $V_{CB} = -30V, I_E = 0, T_J = 150^\circ C$	-	-	-15 -4.0	nA μA
DC Current Gain BC856A-AU, BC857A-AU, BC858A-AU BC856B-AU, BC857B-AU, BC858B-AU, BC859B-AU BC857C-AU, BC858C-AU, BC859C-AU	h_{FE}	$I_C = -10\mu A, V_{CE} = -5V$	-	90 150 270	-	-
DC Current Gain BC856A-AU, BC857A-AU, BC858A-AU BC856B-AU, BC857B-AU, BC858B-AU, BC859B-AU BC857C-AU, BC858C-AU, BC859C-AU	h_{FE}	$I_C = -2.0mA, V_{CE} = -5V$	110 220 420	180 290 520	220 475 800	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5.0mA$	-	-	-0.3 -0.65	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5.0mA$	-	-0.7 -0.9	-	V
Base - Emitter On Voltage	$V_{BE(ON)}$	$I_C = -2mA, V_{CE} = -5.0V$ $I_C = -10mA, V_{CE} = -5.0V$	-0.60 -	- -	-0.75 -0.82	V
Collector - Base Capacitance	C_{CB}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	-	4.5	pF
Current-Gain-Bandwidth Product	F_T	$I_C = -10mA, V_{CE} = -5.0V, f = 100MHz$	-	200	-	MHz



BC856!5I ,BC857!5I ,BC858!5I ,BC859!5I SERIES

ELECTRICAL CHARACTERISTICS CURVES

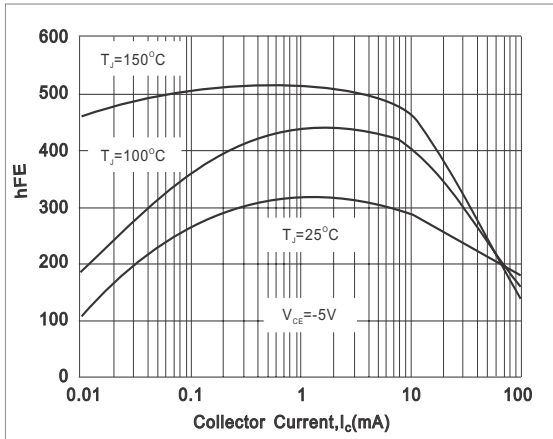


Fig.1-TYPICAL h_{FE} vs. Collector Current

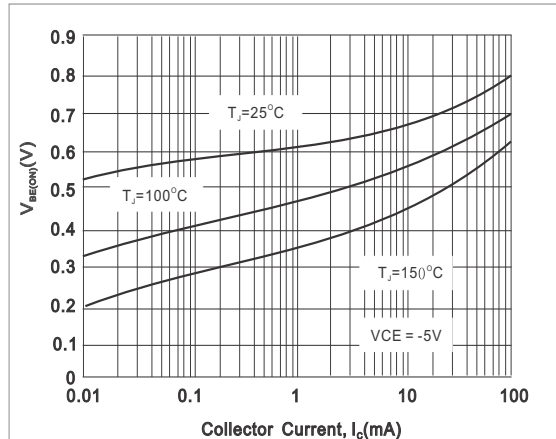


Fig.2-TYPICAL $V_{BE(on)}$ vs. Collector Current

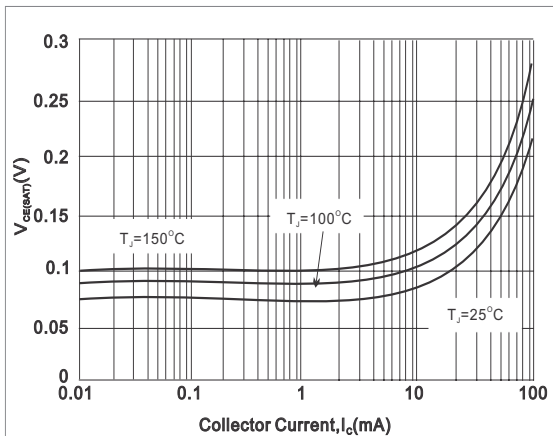


Fig.3-TYPICAL $V_{CE(sat)}$ vs. Collector Current

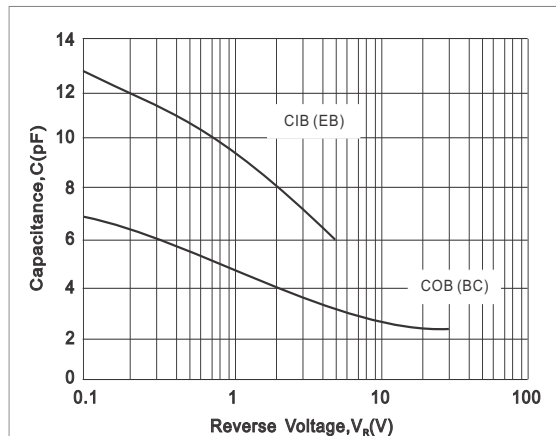
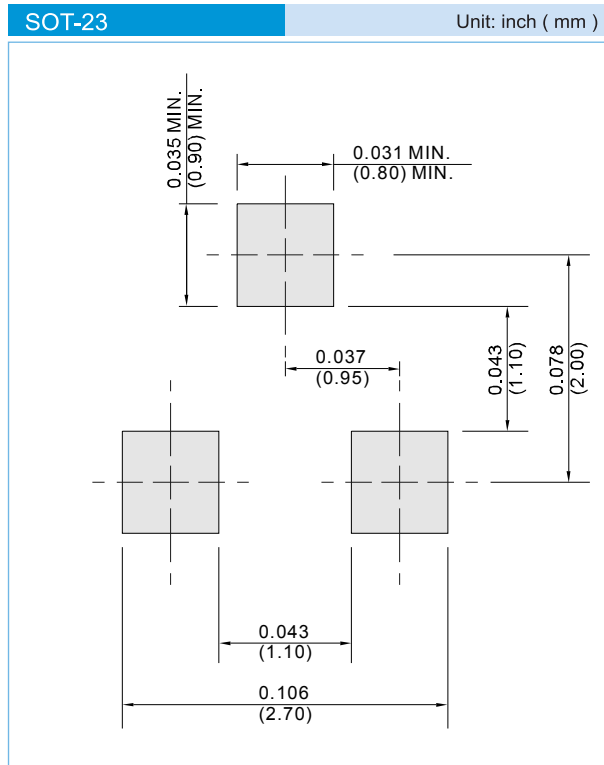


Fig.4-TYPICAL CAPACITANCES vs. REVERSE VOLTAGE



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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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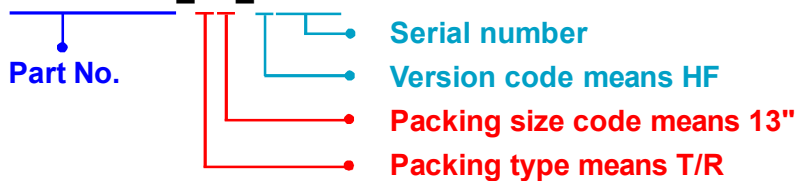
Part No_packing code_Version

BC856-AU_R1_000A1

BC856-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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