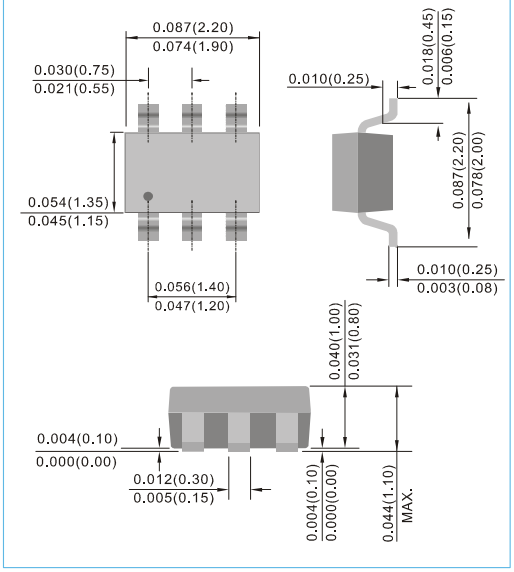
BC857BS-AU

PNP GENERAL PURPOSE DUALTRANSISTORS

VOLTAGE	45 Volt	POWER	150 mWatt

SOT-363 Unit : inch(mm)



FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

MECHANICAL DATA

- Case: SOT-363, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00021 ounce, 0.006 gram
- Marking: 57S

ABSOLUTE MAXIMUM RATINGS

PARAMETER	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	-45	V
Collector - Base Voltage	V_{CBO}	-50	V
Emitter - Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	100	mA

THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Total Device Dissipation Per Device FR-5 Board (Note 1)T_A=25°C Derate above 25°C	P_D	300 150 3.0	mW mW/°C
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	328	°C/W
Junction Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

Note : 1.FR-4 board 70 x 60 x 1mm.

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ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise noted)

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Unit
OFF CHARACTERISTICS						
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-10mA	-45	-	-	V
Collector - Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=-10uA, V_{EB}=0	-50	-	-	
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-10uA	-50	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-1uA	-5.0	-	-	V
Collector Cutoff Current	I_{CBO}	V_{CB}=-30V, V_{CB}=-30V, T_A=150°C	-	-	-15 -5.0	nA uA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	I_C=-10uA, V_{CE}=-5V	-	150	-	-
DC Current Gain	h_{FE}	I_C=-2.0mA, V_{CE}=-5V	220	290	475	-
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 Voltage	$V_{BE(ON)}$	I_C=-2mA, V_{CE}=-5.0V I_C=-10mA, V_{CE}=-5.0V	-0.6 -	- -	-0.75 -0.82	V
SMALL-SIGNAL CHARACTERISTICS						
Current-Gain-Bandwidth Product	f_T	I_C=-10mA,V_{CE}=-5.0Vdc f=100MH_Z	100	-	-	MH_Z
Output Capacitance	C_{obo}	V_{CB}=-10V,f=1.0MH_Z	-	-	4.5	pF
Noise Figure	NF	I_C=0.2mA,V_{CE}=5.0Vdc, R_S=2.0kΩ,f=1.0kH_Z , BW=200H_Z	-	-	10	dB

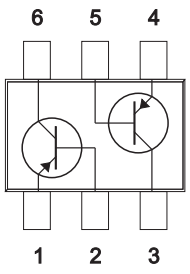

Fig.53

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ELECTRICAL CHARACTERISTICS CURVE

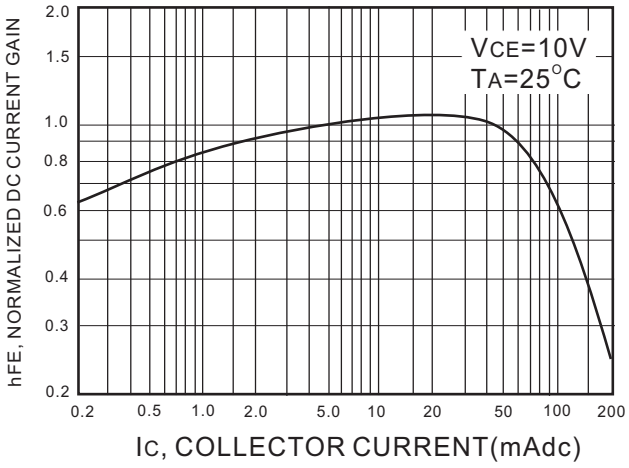

Figure 1. Normalized DC Current Gain

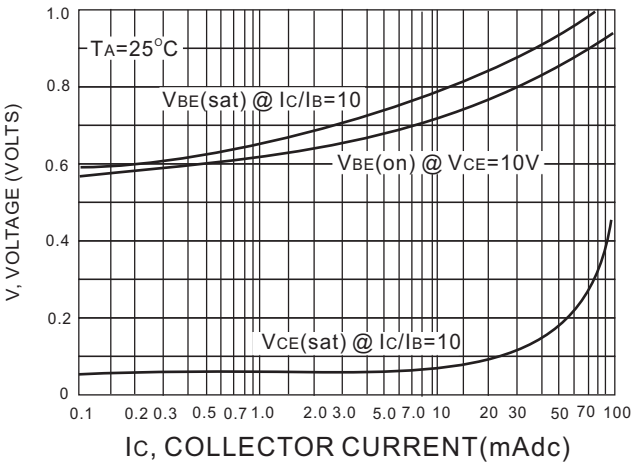

Figure 2. "Saturation" and " On " Voltages

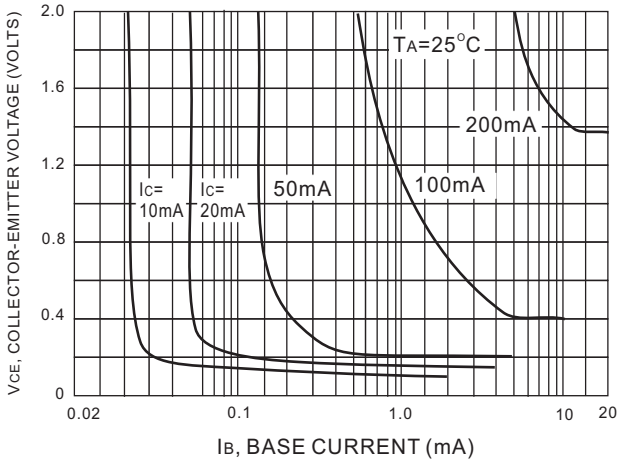

Figure 3. Collector Saturation Region

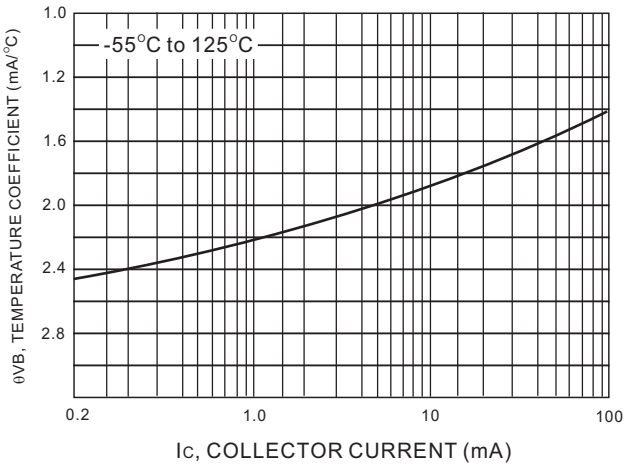

Figure 4. Base-Emitter Temperature Coefficient

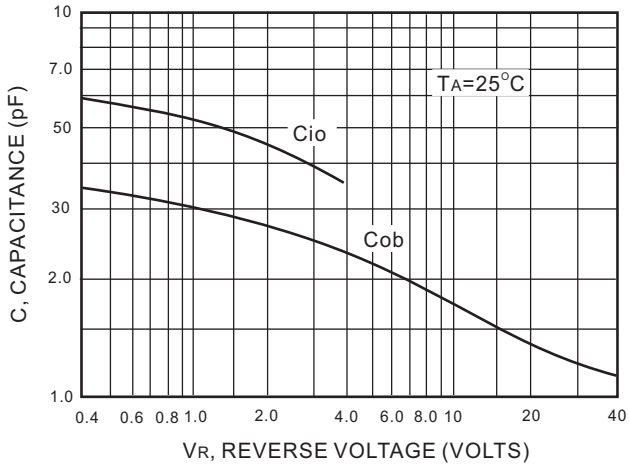

Figure 5. Capacitance

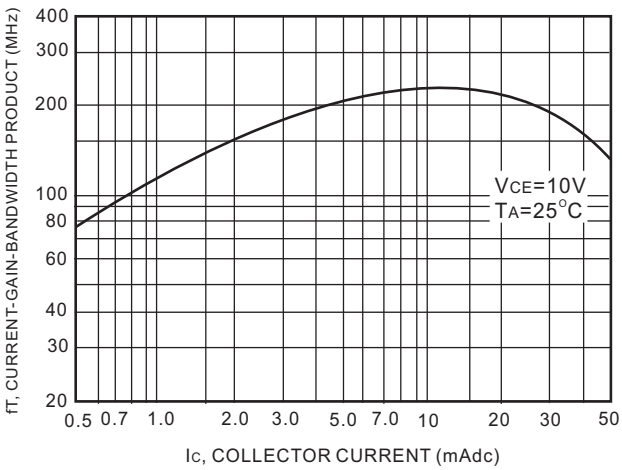

Figure 6. Current-Gain-Bandwidth Product

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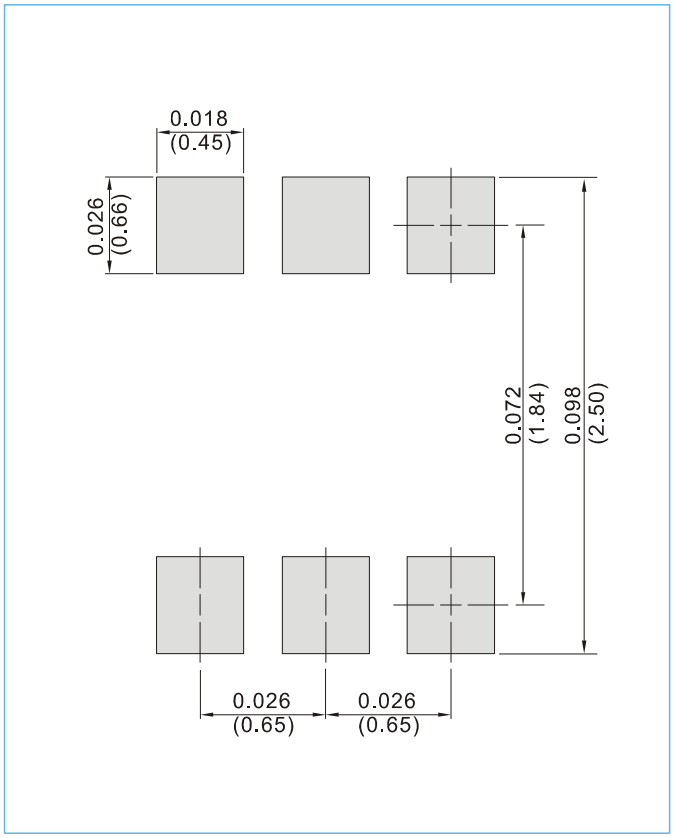
MOUNTING PAD LAYOUT

SOT-363 Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 10K per 13" plastic Reel

  T/R - 3K per 7" plastic Reel

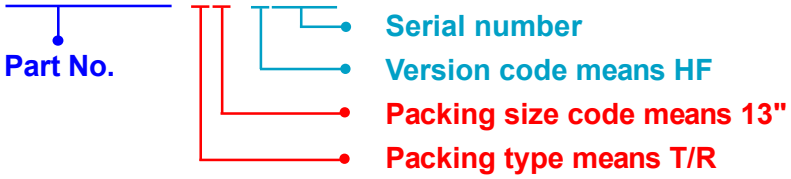
BC857BS-AU

Part No_packing code_Version

BC857BS-AU_R1_000A1
BC857BS-AU_R2_000A1

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th 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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