



BC857BS

PNP GENERAL PURPOSE DUALTRANSISTORS

VOLTAGE 45 Volt **POWER** 150 mWatt

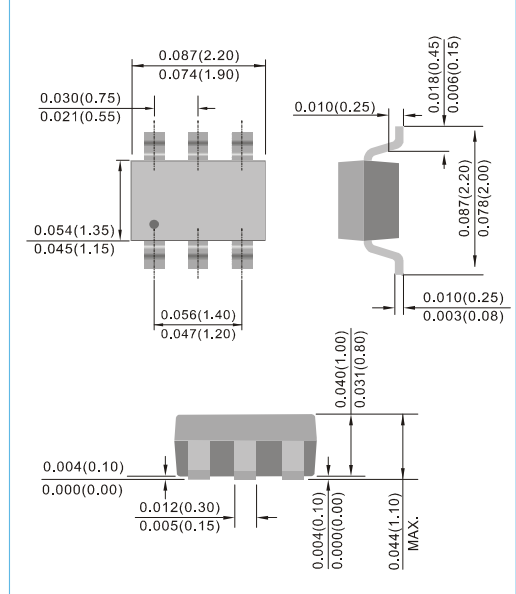
SOT-363 Unit : inch(mm)

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

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) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	300 150 3.0	mW mW/ $^\circ\text{C}$
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	328	$^\circ\text{C/W}$
Junction Temperature	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^\circ\text{C}$

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 =-10μA, V _{EB} =0	-50	-	-	
Collector - Base Breakdown Voltage	V _{(BR)CBO}	I _C =-10μA	-50	-	-	V
Emitter - Base Breakdown Voltage	V _{(BR)EBO}	I _E =-1μA	-5.0	-	-	V
Collector Cutoff Current	I _{CBO}	V _{CB} =-30V, V _{CB} =-30V, T _A =150°C	-	-	-15 -5.0	nA μA
ON CHARACTERISTICS						
DC Current Gain	h _{FE}	I _C =-10μA, 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=100MHz	100	-	-	MHz
Output Capacitance	C _{obo}	V _{CB} =-10V, f=1.0MHz	-	-	4.5	pF
Noise Figure	NF	I _C =0.2mA, V _{CE} =5.0Vdc, R _S =2.0kΩ, f=1.0kHz, BW=200Hz	-	-	10	dB

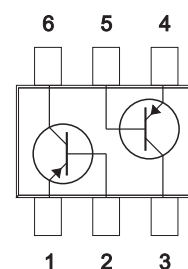


Fig.53



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ELECTRICAL CHARACTERISTICS CURVE

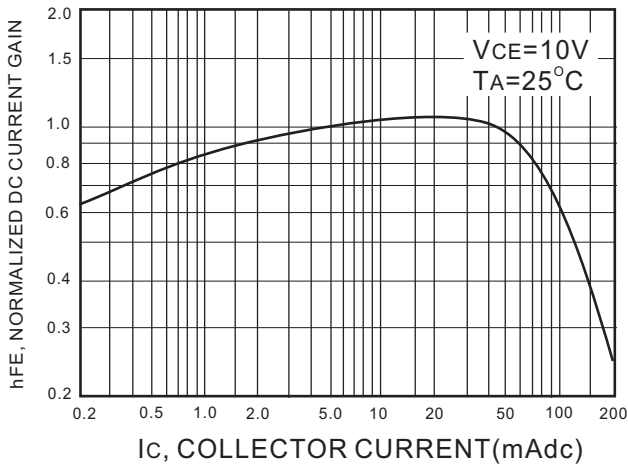


Figure 1. Normalized DC Current Gain

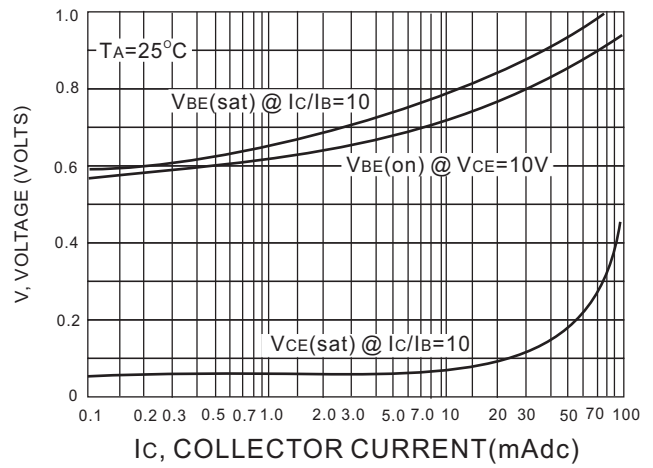


Figure 2. "Saturation" and "On" Voltages

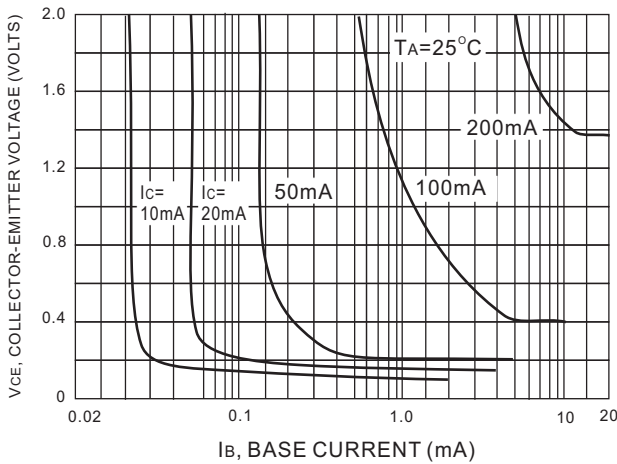


Figure 3. Collector Saturation Region

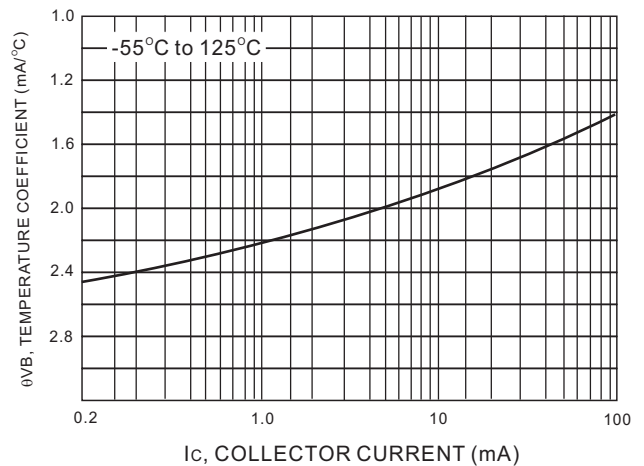


Figure 4. Base-Emitter Temperature Coefficient

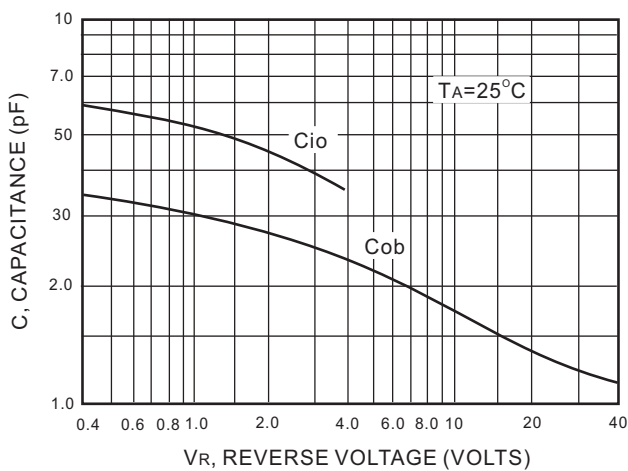


Figure 5. Capacitance

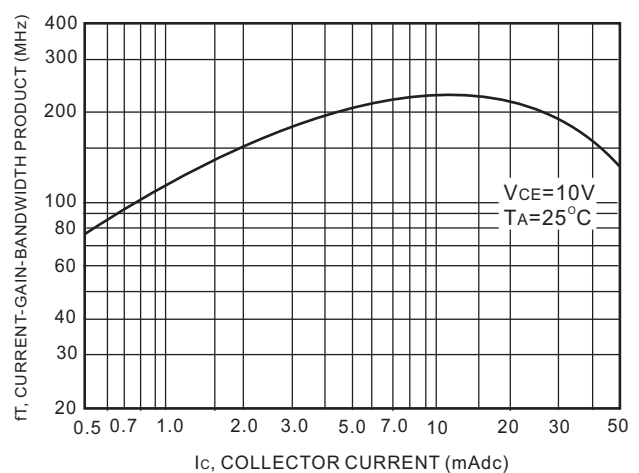


Figure 6. Current-Gain-Bandwidth Product

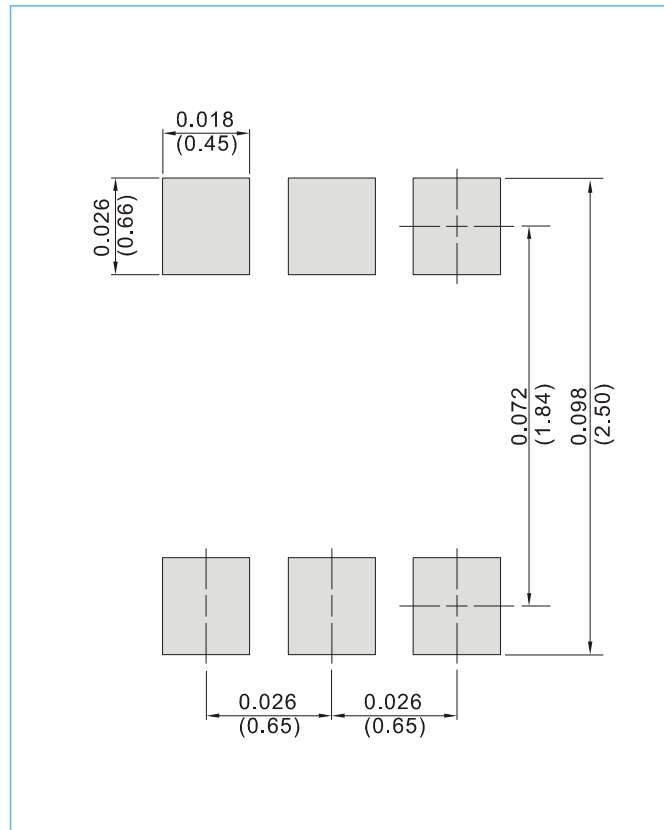


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MOUNTING PAD LAYOUT

SOT-363

Unit : inch(mm)



ORDER INFORMATION

- Packing information
T/R - 10K per 13" plastic Reel
T/R - 3K per 7" plastic Reel



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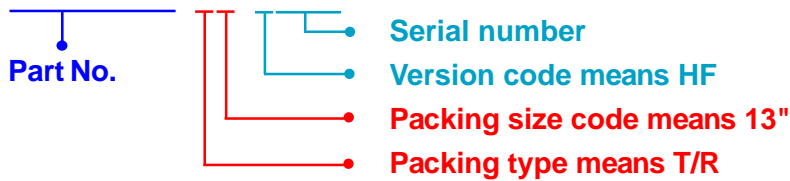
Part No_packing code_Version

BC857BS_R1_00001

BC857BS_R2_00001

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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