

BC857BS

PNP GENERAL PURPOSE DUALTRANSISTORS

VOLTAGE	45 Volt	POWER	150 mWatt
----------------	----------------	--------------	------------------

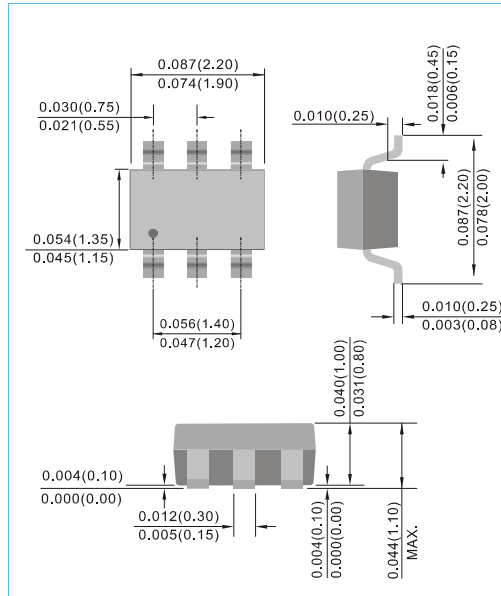
SOT-363 Unit : inch(mm)

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.

BC857BS

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

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Unit
OFF CHARACTERISTICS						
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}$	-45	-	-	V
Collector - Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = -10\mu\text{A}$, $V_{EB} = 0$	-50	-	-	
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}$	-50	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1\mu\text{A}$	-5.0	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = -30\text{V}$, $V_{CB} = -30\text{V}$, $T_A = 150^\circ\text{C}$	-	-	-15 -5.0	nA uA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$I_C = -10\mu\text{A}$, $V_{CE} = -5\text{V}$	-	150	-	-
DC Current Gain	h_{FE}	$I_C = -2.0\text{mA}$, $V_{CE} = -5\text{V}$	220	290	475	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -10\text{mA}$, $I_B = -0.5\text{mA}$ $I_C = -100\text{mA}$, $I_B = -5.0\text{mA}$	-	-	-0.3 -0.65	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -10\text{mA}$, $I_B = -0.5\text{mA}$ $I_C = -100\text{mA}$, $I_B = -5.0\text{mA}$	-	-0.7 -0.9	-	V
Base - Emitter Voltage	$V_{BE(ON)}$	$I_C = -2\text{mA}$, $V_{CE} = -5.0\text{V}$ $I_C = -10\text{mA}$, $V_{CE} = -5.0\text{V}$	-0.6 -	-	-0.75 -0.82	V
SMALL-SIGNAL CHARACTERISTICS						
Current-Gain-Bandwidth Product	f_T	$I_C = -10\text{mA}$, $V_{CE} = -5.0\text{Vdc}$ $f = 100\text{MHz}$	100	-	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = -10\text{V}$, $f = 1.0\text{MHz}$	-	-	4.5	pF
Noise Figure	NF	$I_C = 0.2\text{mA}$, $V_{CE} = 5.0\text{Vdc}$, $R_S = 2.0\text{k}\Omega$, $f = 1.0\text{kHz}$, $\text{BW} = 200\text{Hz}$	-	-	10	dB

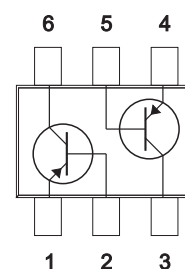


Fig.53

BC857BS

ELECTRICAL CHARACTERISTICS CURVE

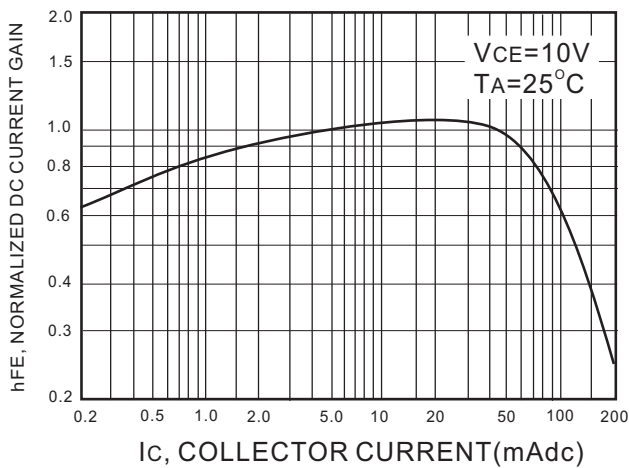


Figure 1. Normalized DC Current Gain

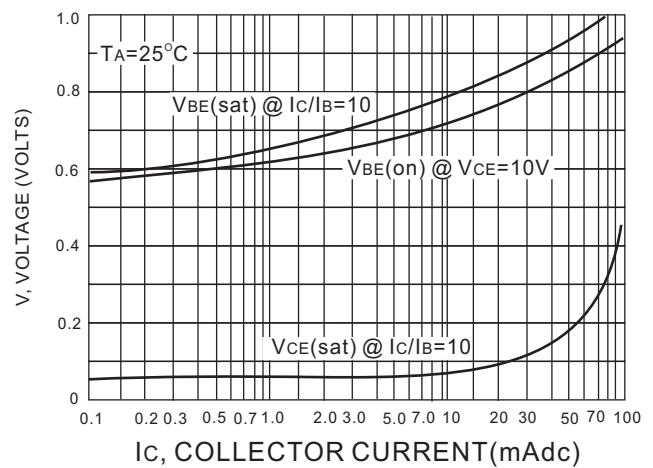


Figure 2. "Saturation" and "On" Voltages

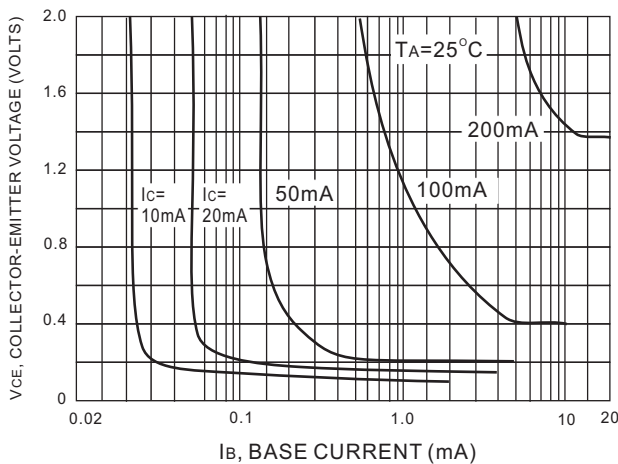


Figure 3. Collector Saturation Region

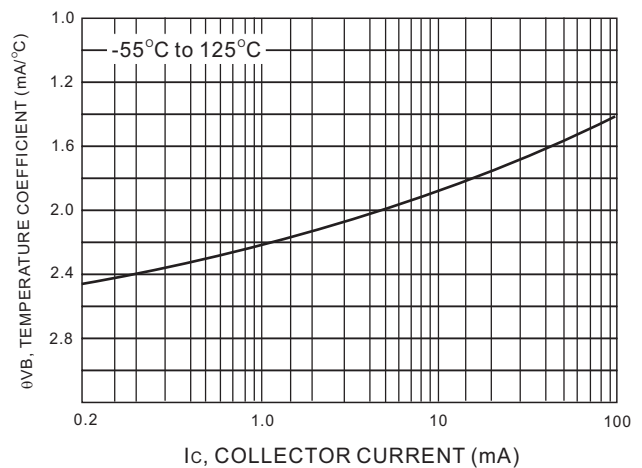


Figure 4. Base-Emitter Temperature Coefficient

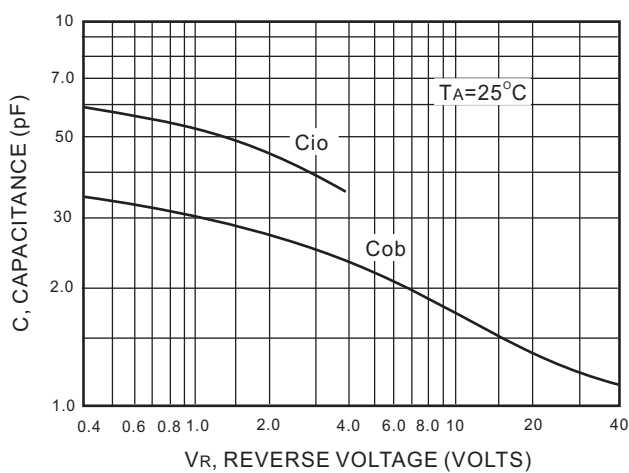


Figure 5. Capacitance

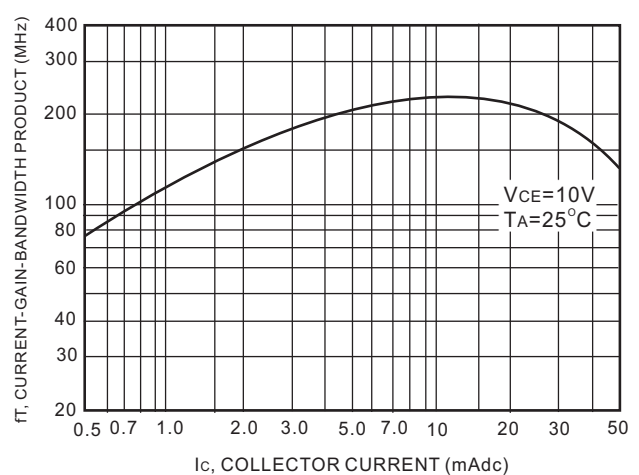


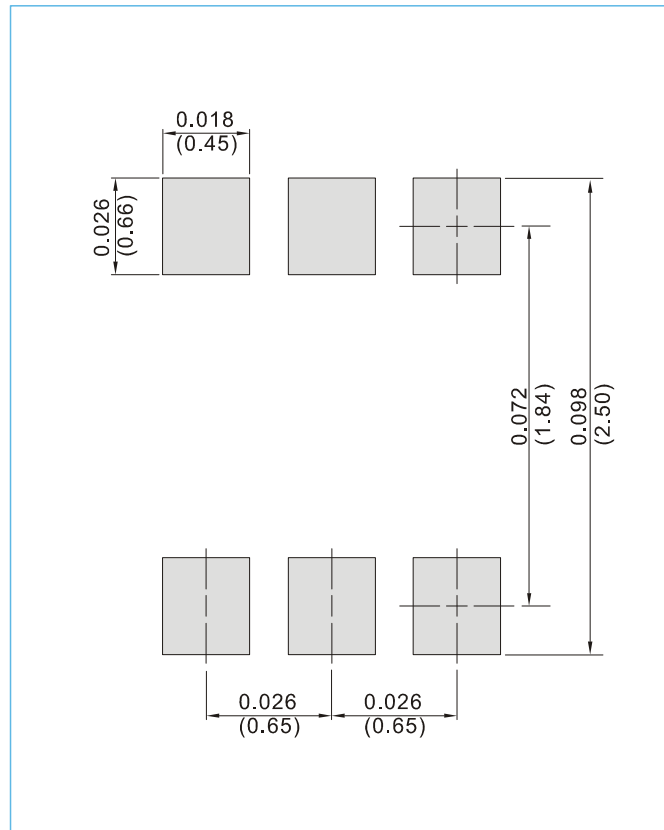
Figure 6. Current-Gain-Bandwidth Product

BC857BS

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

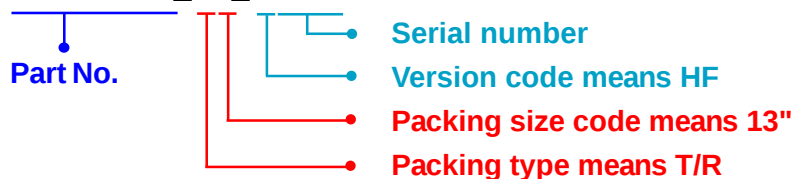
Part No_packing code_Version

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			



BC857BS

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panjit:](#)

[BC857BS_R1_00001](#) [BC857BS_R2_00001](#) [BC857BS_R1_10001](#) [BC857BS_R2_10001](#)