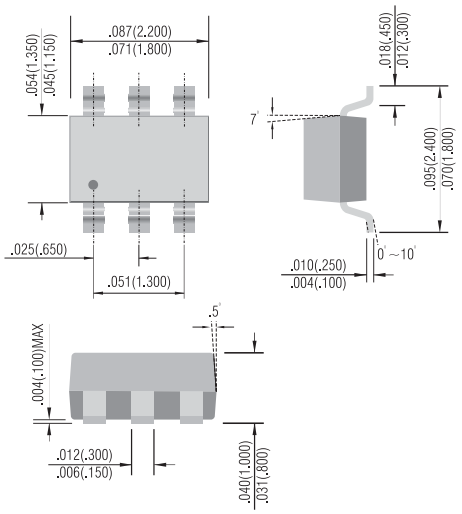
BC857BS

PNP GENERAL PURPOSE DUALTRANSISTORS

VOLTAGE 45 Volts **POWER** 150 mWatts

SOT-363 Unit: inch (mm)



FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: SOT-363, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.008 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=10uA	-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	200 420	150	- -	-
DC Current Gain	h_{FE}	I_C=2.0mA, V_{CE}=5V	- -	150	475 800	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=10mA, I_B=0.5mA I_C=100mA, I_B=5.0mA	-	- -	-0.25 -0.6	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	$V_{BE(SAT)}$	I_C=2mA, V_{CE}=5.0V I_C=10mA, V_{CE}=5.0V	-580 -	-660 -	-700 -770	mV
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

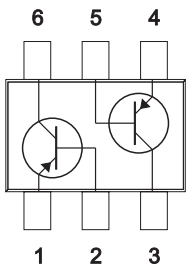

Fig.53

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ELECTRICAL CHARACTERISTICS CURVE

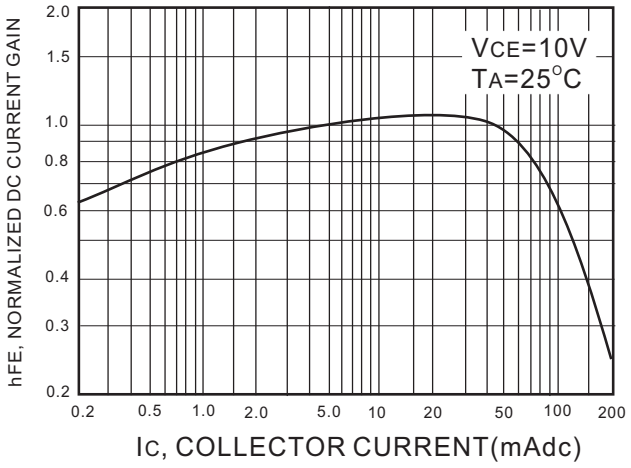

Figure 1. Normalized DC Current Gain

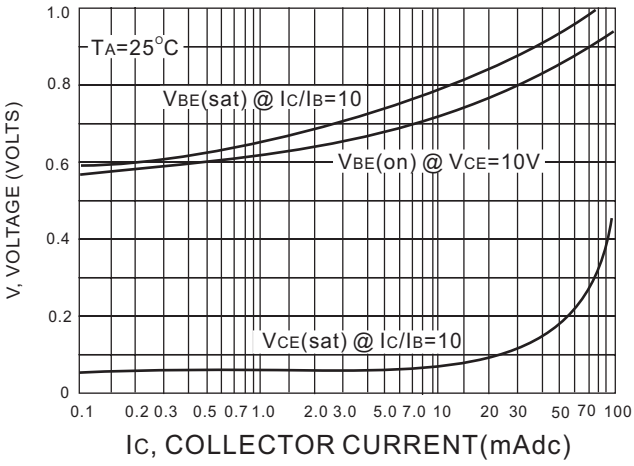

Figure 2. "Saturation" and " On " Voltages

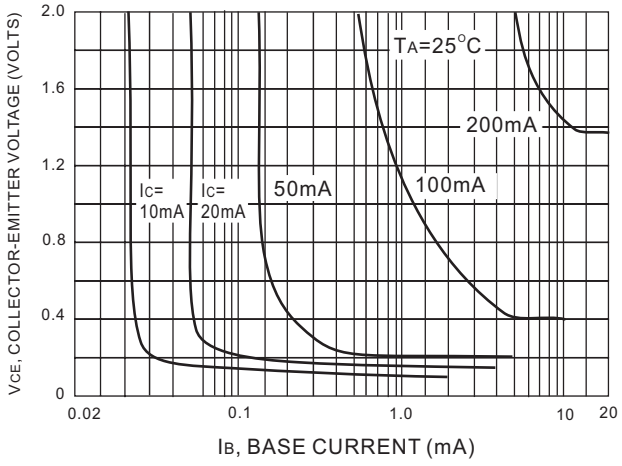

Figure 3. Collector Saturation Region

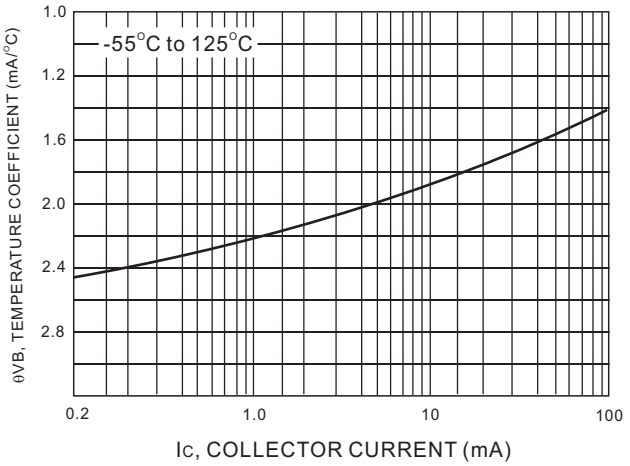

Figure 4. Base-Emitter Temperature Coefficient

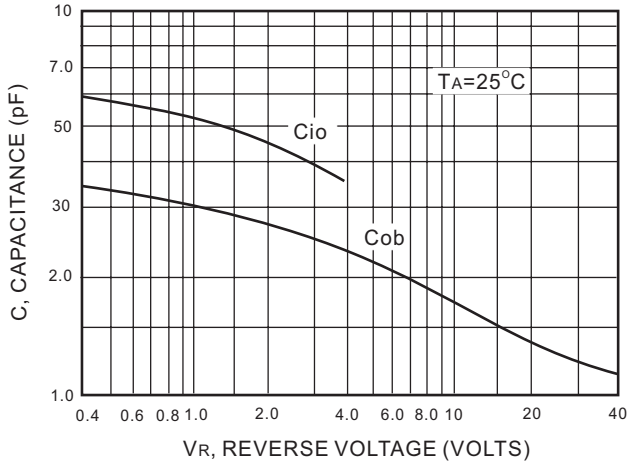

Figure 5. Capacitance

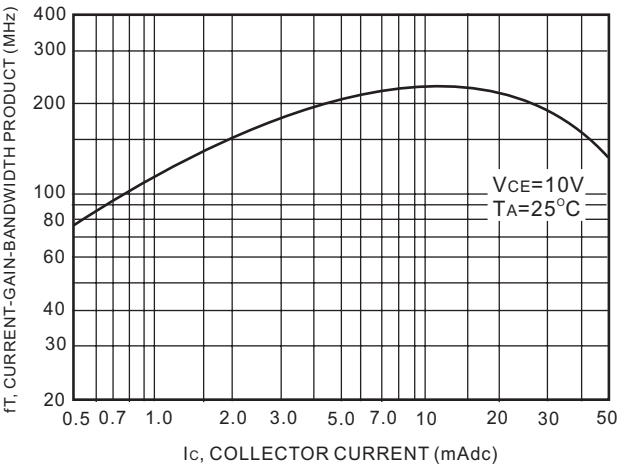

Figure 6. Current-Gain-Bandwidth Product

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MOUNTING PAD LAYOUT

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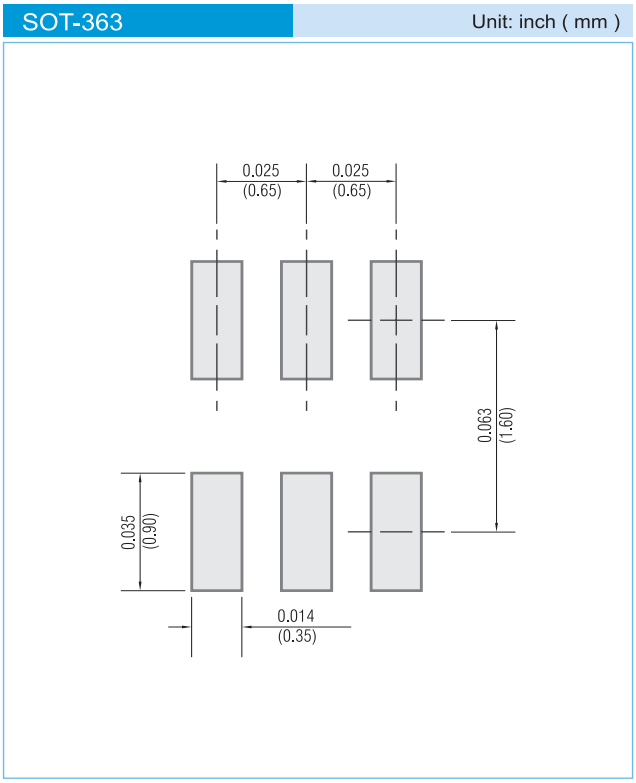

ORDER INFORMATION

- Packing information

  T/R - 10K per 13" plastic Reel

  T/R - 3K per 7" plastic Reel

LEGAL STATEMENT