



YOUSHANG SEMICONDUCTOR

**设计研发新型功率器件**

**各类小信号开关**

**中低压及高压大电流等场效应管**

0755-83047638

ysbdt@szyoushang.cn

www.szyoushang.cn



企业微信二维码



企业QQ二维码

## Features

- Epitaxial Die Construction
- Complementary PNP Type Available (BC847BV)
- Ultra-Small Surface Mount Package

## Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish - Matte Tin Annealed over Copper Leadframe; Solderable per MIL-STD-202, Method 208
- Weight: 0.003 grams (Approximate)

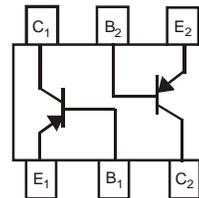
SOT-563



Top View



Bottom View



Device Schematic  
(Note 5)

**Maximum Ratings** (@ $T_A = +25^{\circ}\text{C}$  unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	V
Collector Current	$I_C$	-100	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	$P_D$	150	mW
Thermal Resistance, Junction to Ambient (Note 6)	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**Electrical Characteristics** (@ $T_A = +25^{\circ}\text{C}$  unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 7)	$V_{(BR)CB0}$	-50	—	—	V	$I_C = 10\mu\text{A}, I_B = 0$
Collector-Emitter Breakdown Voltage (Note 7)	$V_{(BR)CEO}$	-45	—	—	V	$I_C = 10\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage (Note 7)	$V_{(BR)EBO}$	-5	—	—	V	$I_E = 1\mu\text{A}, I_C = 0$
DC Current Gain (Note 7)	$h_{FE}$	220	290	475	—	$V_{CE} = -5.0\text{V}, I_C = -2.0\text{mA}$
Collector-Emitter Saturation Voltage (Note 7)	$V_{CE(SAT)}$	—	—	-100 -400	mV	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$
Base-Emitter Saturation Voltage (Note 7)	$V_{BE(SAT)}$	—	-700 -900	—	mV	
Base-Emitter Voltage (Note 7)	$V_{BE(ON)}$	-600	—	-750 -820	mV	
Collector Cut-Off Current (Note 7)	$I_{CBO}$	—	—	-15 -4.0	nA $\mu\text{A}$	
Gain Bandwidth Product	$f_T$	100	—	—	MHz	$V_{CE} = -5.0\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$
Output Capacitance	$C_{OB}$	—	—	4.5	pF	
Noise Figure	NF	—	—	10	dB	$R_S = 2.0\text{K}\Omega, f = 1.0\text{KHz}, \text{BW} = 200\text{Hz}$

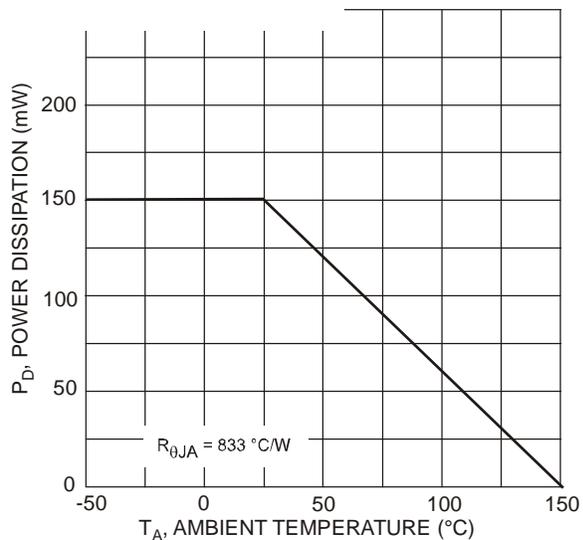


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 2)

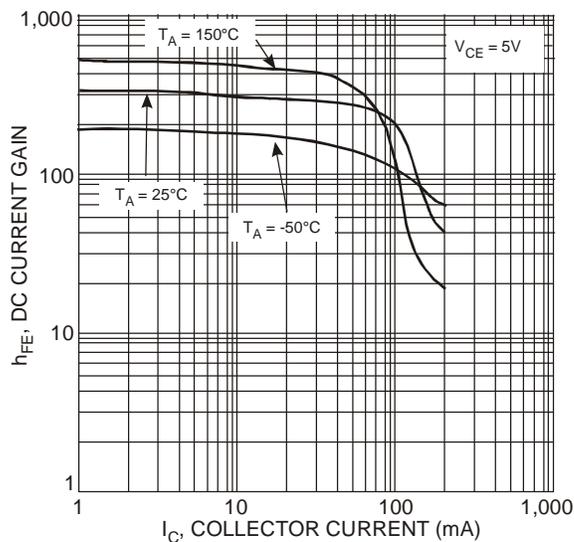


Fig. 2 Typical DC Current Gain vs. Collector Current

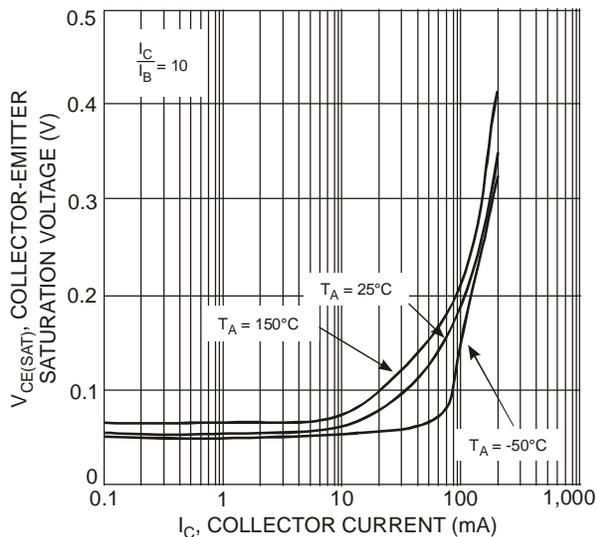


Fig. 3 Collector-Emitter Saturation Voltage vs. Collector Current

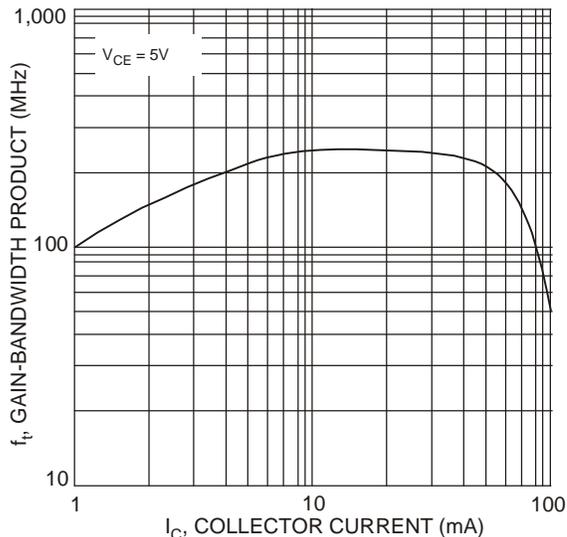
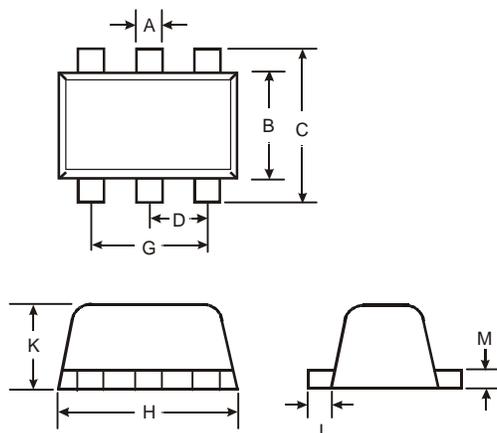


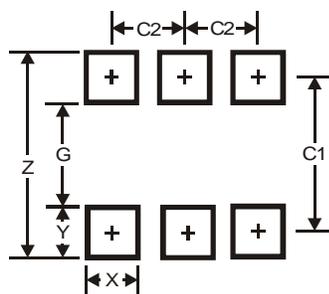
Fig. 4 Typical Gain-Bandwidth Product vs. Collector Current

## Package Outline Dimensions



SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5