



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

- $BV_{CE0} > 45V$
- Ultra-Small Surface Mount Package

Mechanical Data

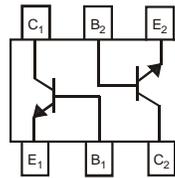
- Case: SOT563
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish — Matte Tin Finish. Solderable per MIL-STD-202, Method 208 **e3**
- Weight 0.002 grams (Approximate)



Top View



Bottom View



Device Schematic

Absolute Maximum Ratings (@T_A = +25°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}	6.0	V
Collector Current	I _C	100	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	150	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 6)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	200	V	B

Notes: 5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

6. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

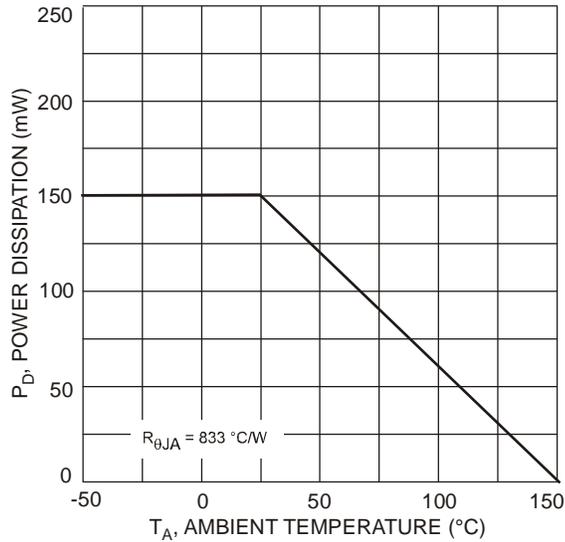


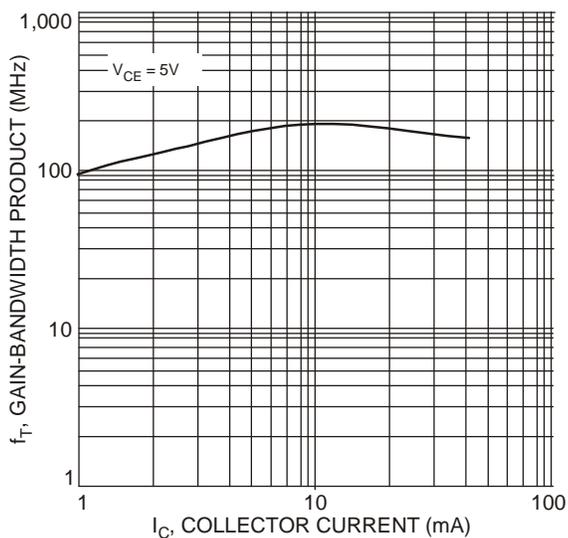
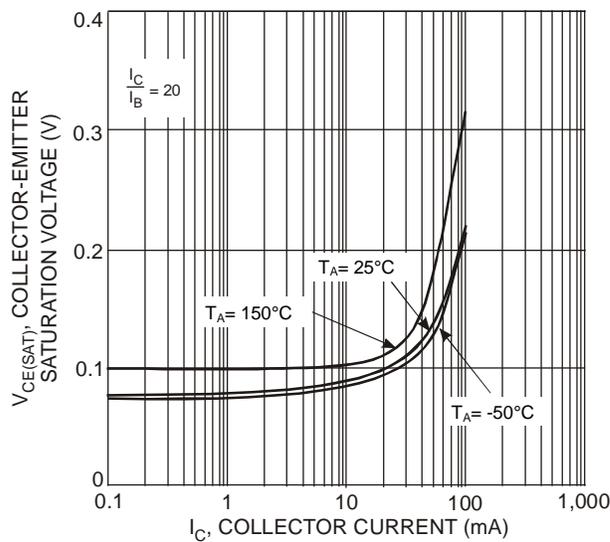
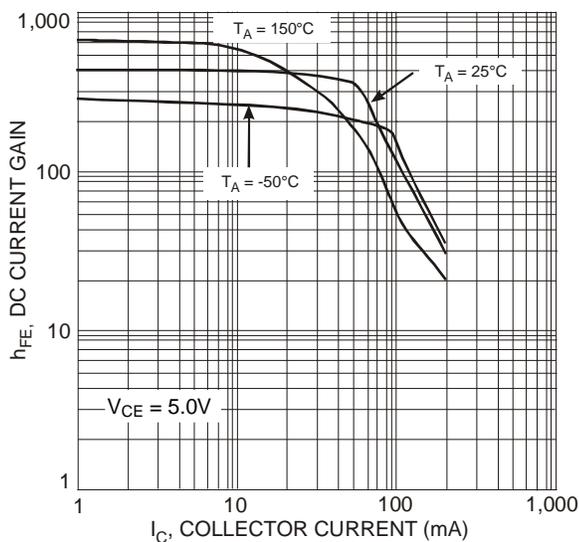
Fig. 1 Power Dissipation vs. Ambient Temperature

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V _{(BR)CBO}	50	—	—	V	I _C = 10μA, I _B = 0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	45	—	—	V	I _C = 10mA, I _B = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6	—	—	V	I _E = 1μA, I _C = 0
DC Current Gain (Note 7)	h _{FE}	200	290	450	—	V _{CE} = 5.0V, I _C = 2.0mA
Collector-Emitter Saturation Voltage (Note 7)	V _{CE(SAT)}	—	—	100 300	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Saturation Voltage (Note 7)	V _{BE(SAT)}	—	700 900	—	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Voltage	V _{BE}	580 —	660 —	700 770	mV	V _{CE} = 5.0V, I _C = 2.0mA V _{CE} = 5.0V, I _C = 10mA
Collector-Emitter Cutoff Current	I _{CBO} I _{CBO}	—	—	15 5.0	nA μA	V _{CB} = 30V V _{CB} = 30V, T _A = +150°C
Gain Bandwidth Product	f _T	100	—	—	MHz	V _{CE} = 5.0V, I _C = 10mA, f = 100MHz
Output Capacitance	C _{OBO}	—	—	4.5	pF	V _{CB} = 10V, f = 1.0MHz
Noise Figure	NF	—	—	10	dB	V _{CE} = 5V, R _S = 2.0kΩ, f = 1.0kHz, BW = 200Hz

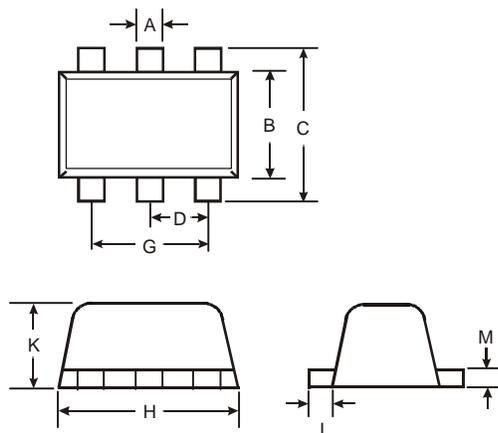
Note: 7. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

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



Package Outline Dimensions

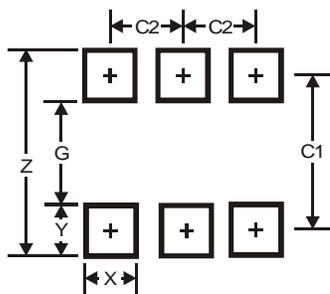
SOT563



SOT563			
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

SOT563



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