



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



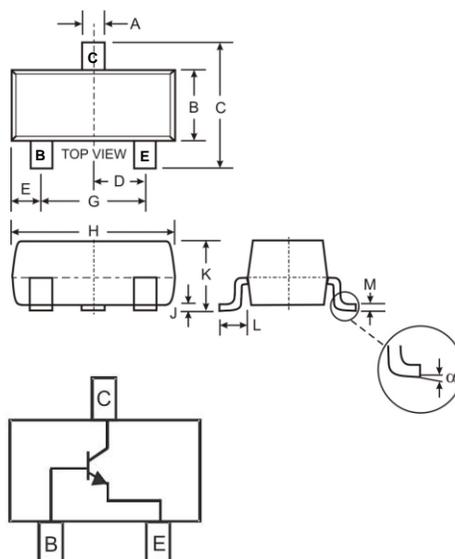
企业QQ二维码

## Features

- Designed for VHF/UHF Amplifier Applications and High Output VHF Oscillators
- High Current Gain Bandwidth Product
- Ideal for Mixer and RF Amplifier Applications with collector currents in the 100 $\mu$ A - 30 mA Range

## Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
$\alpha$	0°	8°
All Dimensions in mm		

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	4.0	V
Collector Current - Continuous (Note 1)	$I_C$	50	mA
Power Dissipation (Note 1)	$P_d$	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	417	$^\circ\text{C/W}$
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	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 2)</b>					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40	—	V	$I_C = 1\text{mA}, I_B = 0$
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40	—	V	$I_C = 100\mu\text{A}, I_E = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4.0	—	V	$I_E = 10\mu\text{A}, I_C = 0$
Collector Cutoff Current	$I_{CBO}$	—	100	nA	$V_{CB} = 30\text{V}, I_E = 0$
Emitter Cutoff Current	$I_{EBO}$	—	100	nA	$V_{EB} = 2\text{V}, I_C = 0$
<b>ON CHARACTERISTICS (Note 2)</b>					
DC Current Gain	$h_{FE}$	30	—	—	$I_C = 8\text{mA}, V_{CE} = 10.0\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.5	V	$I_C = 4\text{mA}, I_B = 400\mu\text{A}$
Base-Emitter On Voltage	$V_{BE(SAT)}$	—	0.95	V	$I_C = 4\text{mA}, V_{CE} = 10.0\text{V}$
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Current Gain-Bandwidth Product	$f_T$	400	—	MHz	$V_{CE} = 10\text{V}, f = 100\text{MHz}, I_C = 8\text{mA}$
Collector-Base Capacitance	$C_{CB}$	—	0.7	pF	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}, I_E = 0$
Collector-Base Feedback Capacitance	$C_{RB}$	—	0.65	pF	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}, I_E = 0$
Collector-Base Time Constant	$R_b'C_c$	—	9	ps	$I_C = 4\text{mA}, V_{CB} = 10\text{V}, f = 31.8\text{MHz}$

