



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

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企业微信二维码



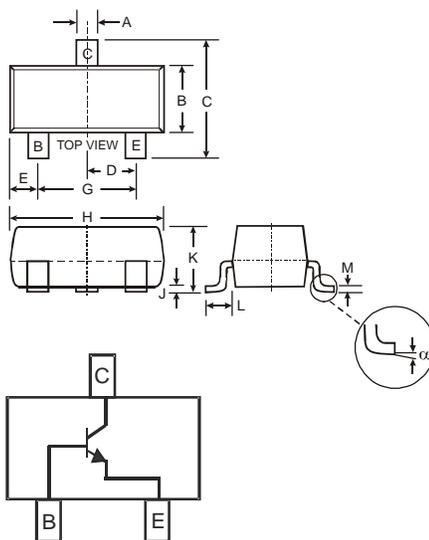
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Features

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching

Mechanical Data

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



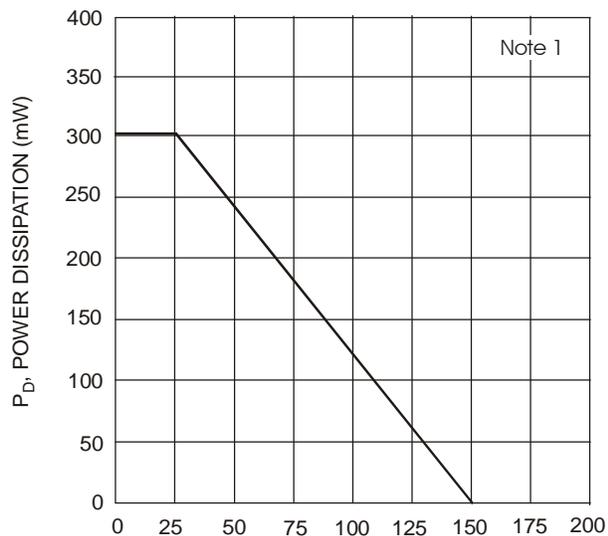
SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	45	V
Collector-Emitter Voltage	V_{CEO}	18	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	1	A
Power Dissipation (Note 1)	P_D	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

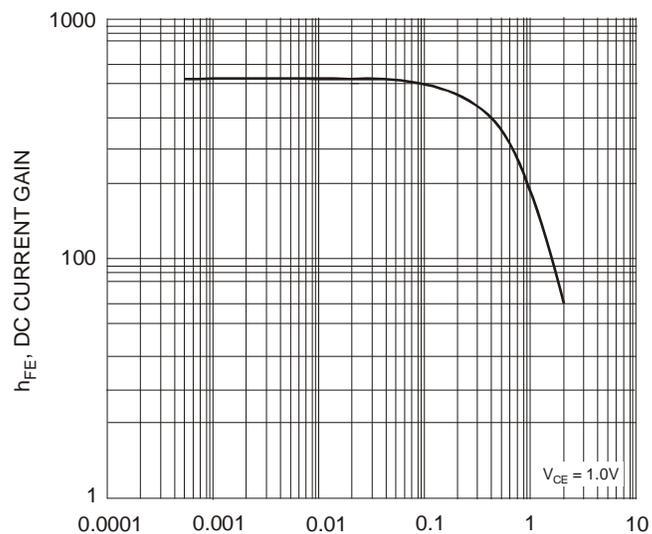
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 3)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	45	—	V	$I_C = 100\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	18	—	V	$I_C = 1\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	—	V	$I_E = 100\mu\text{A}, I_C = 0$
Collector Cutoff Current	I_{CBO}	—	1	μA	$V_{CB} = 40\text{V}, I_E = 0$
Emitter Cutoff Current	I_{EBO}	—	1	μA	$V_{EB} = 4\text{V}, I_C = 0$
ON CHARACTERISTICS (Note 3)					
DC Current Gain	h_{FE}	150	800	—	$I_C = 100\text{mA}, V_{CE} = 1\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.5	V	$I_C = 300\text{mA}, I_B = 30\text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}	—	8	pF	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}, I_E = 0$
Current Gain-Bandwidth Product	f_T	100	—	MHz	$V_{CB} = 10\text{V}, I_E = 50\text{mA}, f = 100\text{MHz}$



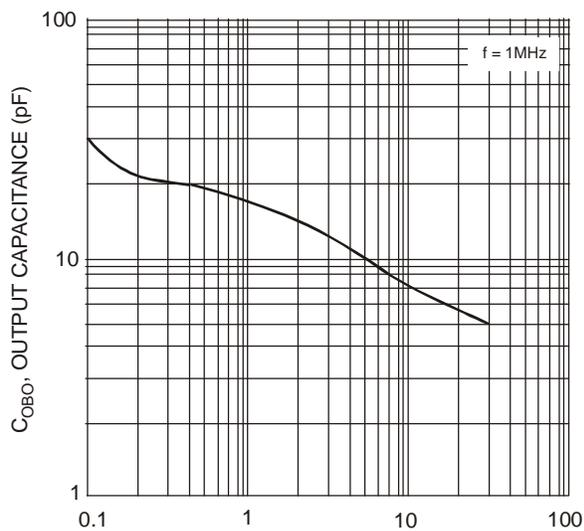
T_A, AMBIENT TEMPERATURE (°C)

Fig. 1, Max Power Dissipation vs Ambient Temperature



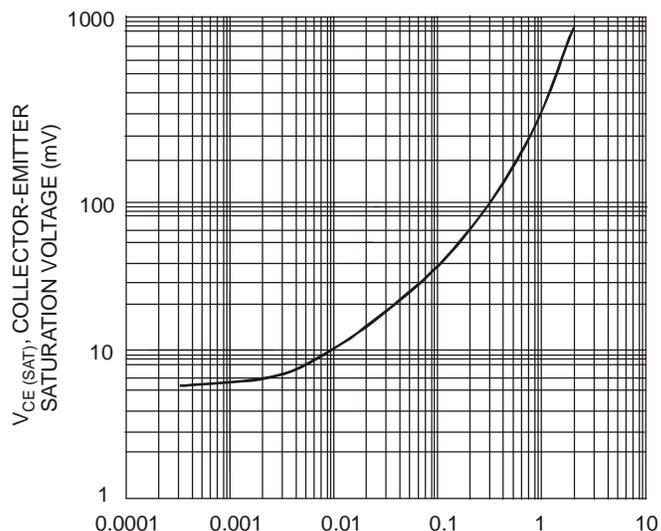
I_C, COLLECTOR CURRENT (A)

Fig. 2, Typical DC Current Gain vs Collector Current



V_{CB}, COLLECTOR-BASE VOLTAGE (V)

Fig. 3, Output Capacitance vs. Collector-Base Voltage



I_C, COLLECTOR CURRENT (A)

Fig. 4, Collector Saturation Voltage vs Collector Current