



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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Features

- Epitaxial Planar Die Construction
- Built-In Biasing Resistors, $R1 = R2$

Mechanical Data

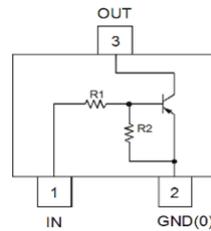
- Case: SOT23
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 Ⓢ
- Weight: 0.008 grams (Approximate)

R1, R2 (NOM)
22k Ω

SOT23



Top View



Device Schematic

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

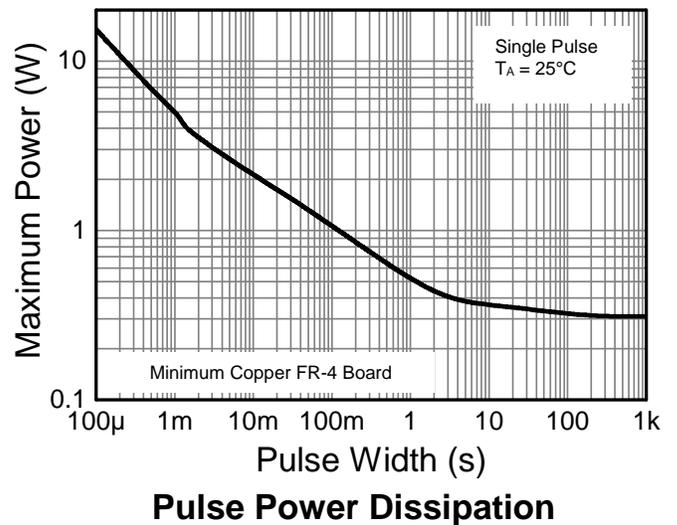
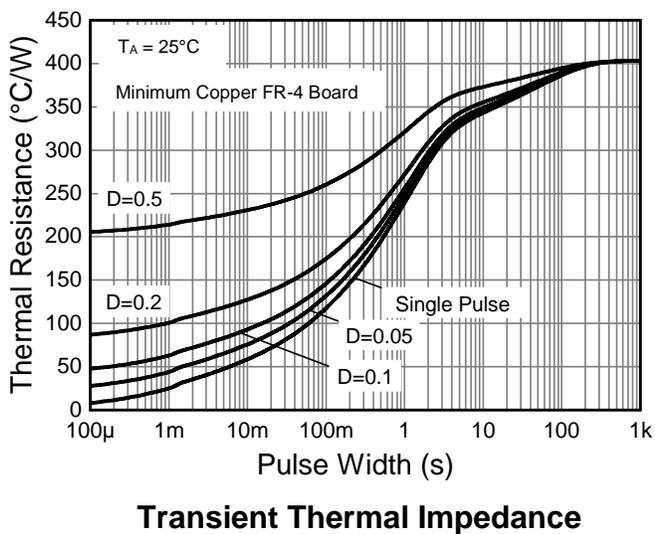
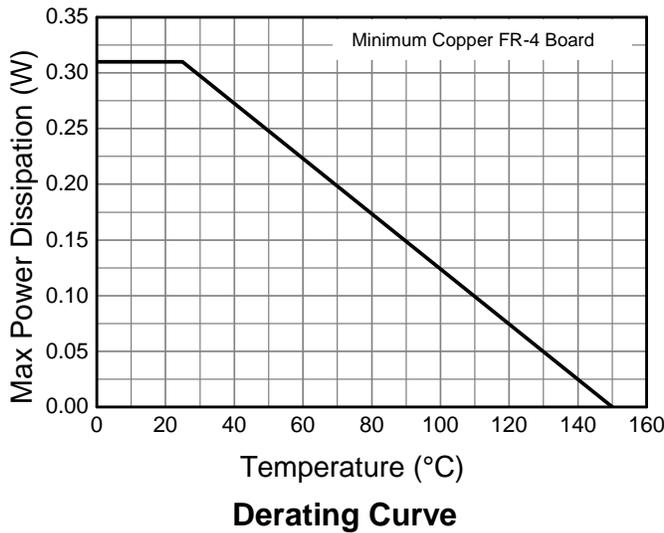
Characteristic	Symbol	Value	Unit
Supply Voltage <Pin: (3) to (2)>	V _{CC}	-50	V
Input Voltage <Pin: (1) to (2)>	V _{IN}	+10 to -40	V
Output Current	I _O	-30	mA
Output Current	I _C (Max)	-100	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	310	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	403	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Note: 5. Mounted on FR-4 PC Board with minimum recommended pad layout.

Thermal Characteristics and Derating Information

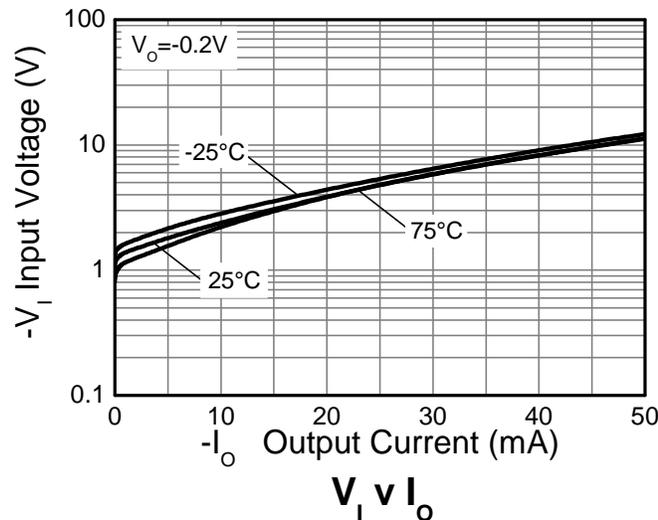
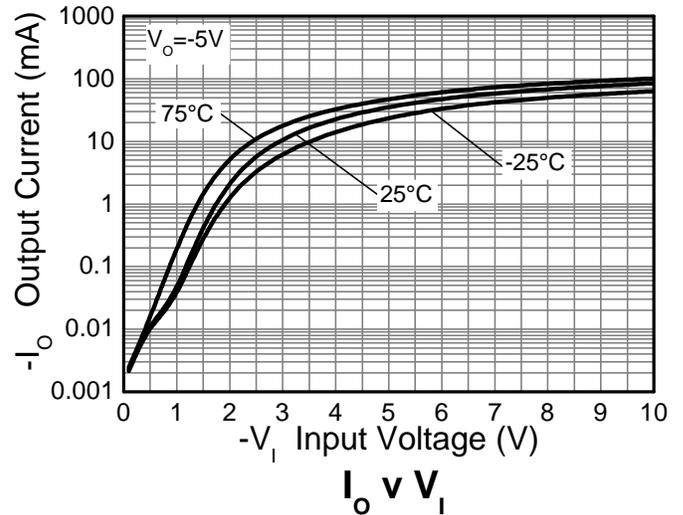
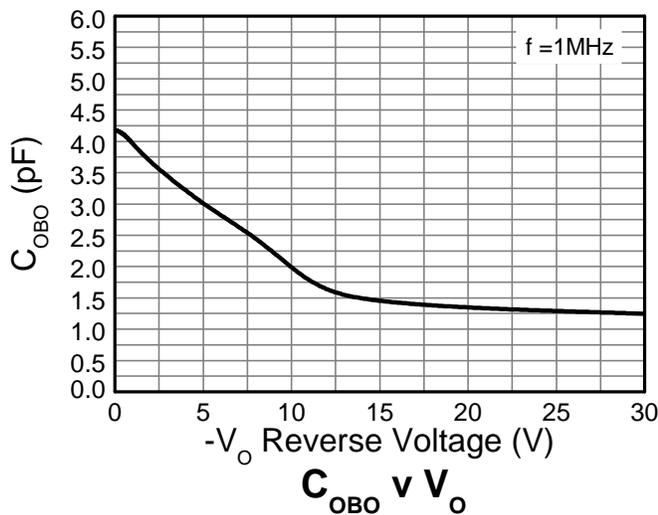
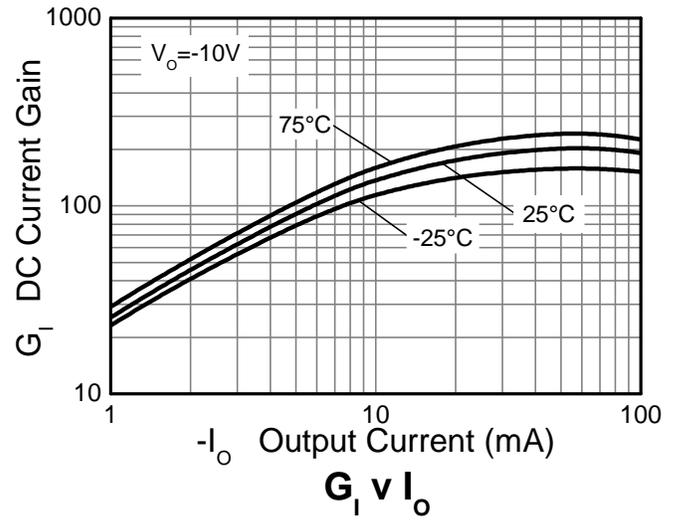
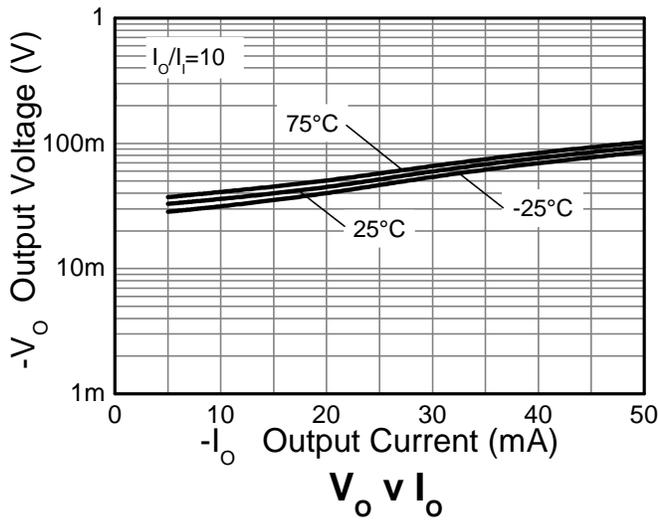


Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	V _{I(off)} (Note 6)	-0.5	-1.1	—	V	V _{CC} = -5V, I _O = -100μA
	V _{I(on)} (Note 7)	—	-1.9	-3		V _O = -0.3V, I _O = -5mA
Output Voltage	V _{O(on)}	—	-0.1	-0.3	V	I _O /I _I = -10mA / -0.5mA
Input Current	I _I	—	—	-0.36	mA	V _I = -5V
Output Current	I _{O(off)}	—	—	-0.5	μA	V _{CC} = -50V, V _I = 0V
DC Current Gain	G _I	56	—	—	—	V _O = -5V, I _O = -5mA
Input Resistor Tolerance	ΔR ₁	-30	—	+30	%	—
Resistance Ratio Tolerance	ΔR ₂ /R ₁	-20	—	+20	%	—
Gain-Bandwidth Product (Note 8)	f _T	—	250	—	MHz	V _{CE} = -10V, I _E = -5mA, f = 100MHz

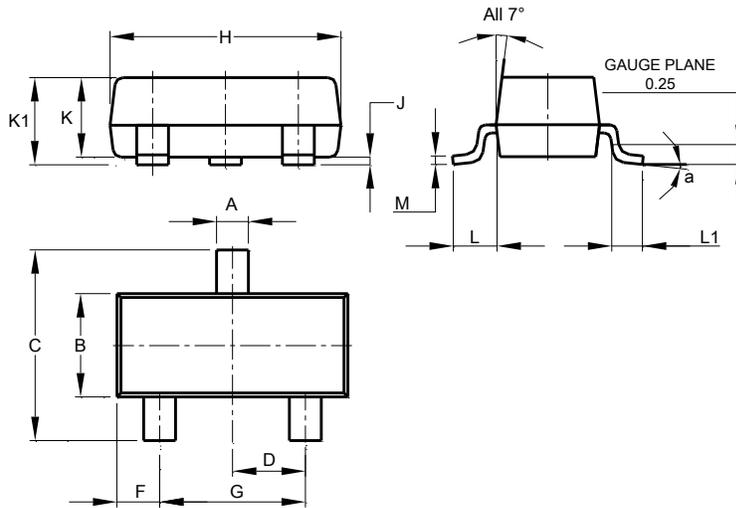
- Notes:
- 6. Guarantees that the device will be switched OFF if the Input Voltage is less than -0.5V.
 - 7. Guarantees that the device will be switched ON if the Input Voltage is more than -3V.
 - 8. Transistor - For Reference Only.

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



Package Outline Dimensions

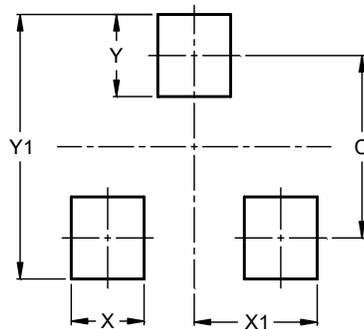
SOT23



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9