



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

Mechanical Data

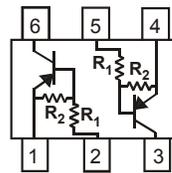
- Case: SOT363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 [Ⓔ]
- Weight: 0.006 grams (Approximate)

R ₁ (NOM)	R ₂ (NOM)
10kΩ	47kΩ

SOT363



Top View



Device Schematic

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

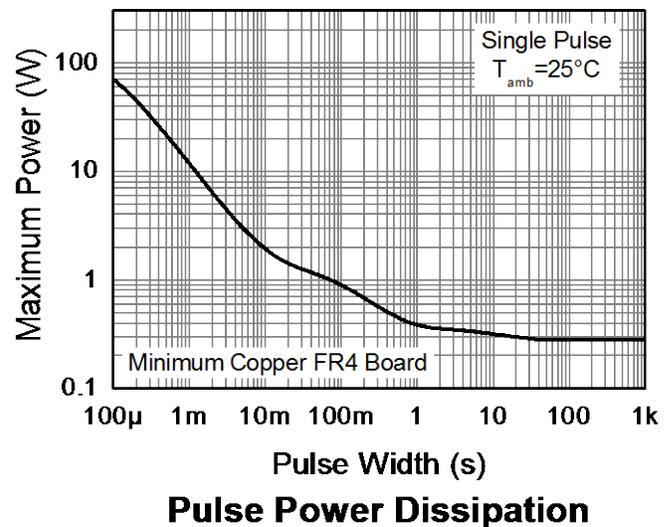
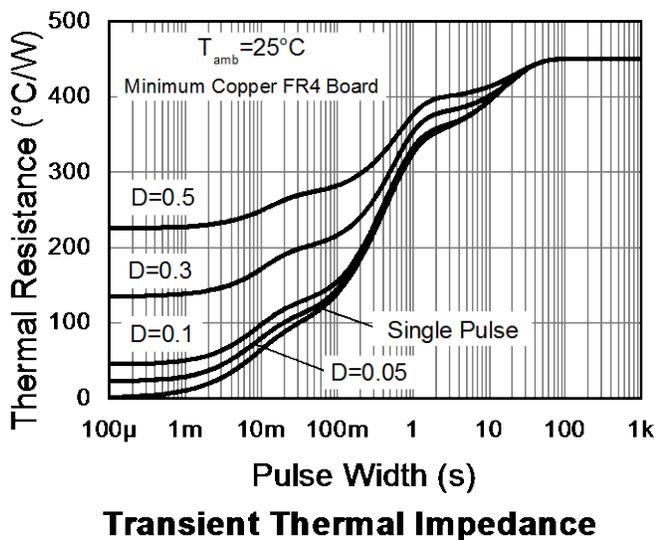
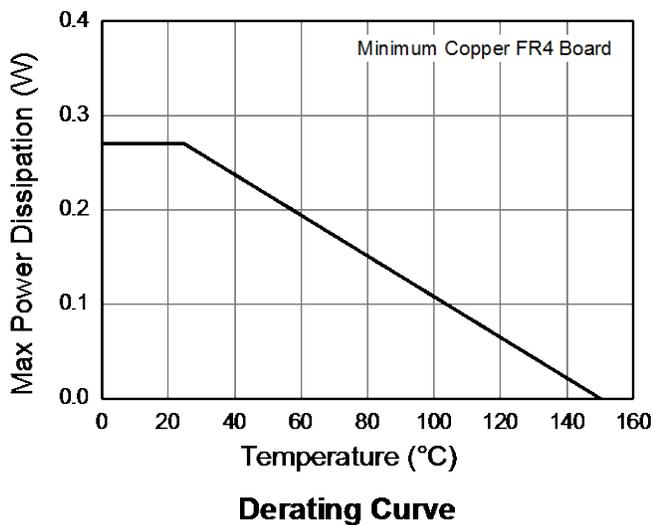
Characteristic	Symbol	Value	Unit
Supply Voltage (1) to (6) and (4) to (3)	V_{CC}	-50	V
Input Voltage (1) to (2) and (4) to (5)	V_{IN}	+6 to -40	V
Output Current	I_O	-70	mA
Output Current	$I_{C(MAX)}$	-100	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation (Notes 5 & 6)	P_D	270	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	450	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Notes: 5. Mounted on FR4 PC Board with minimum recommended pad layout.
 6. 150mW per element must not be exceeded.

Thermal Characteristics and Derating Information

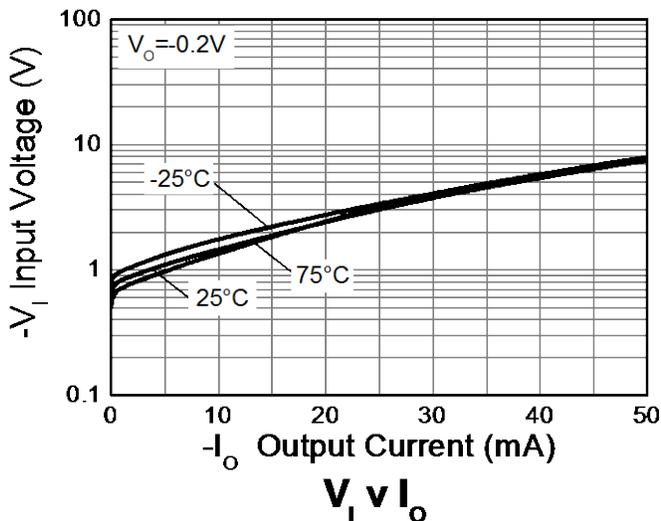
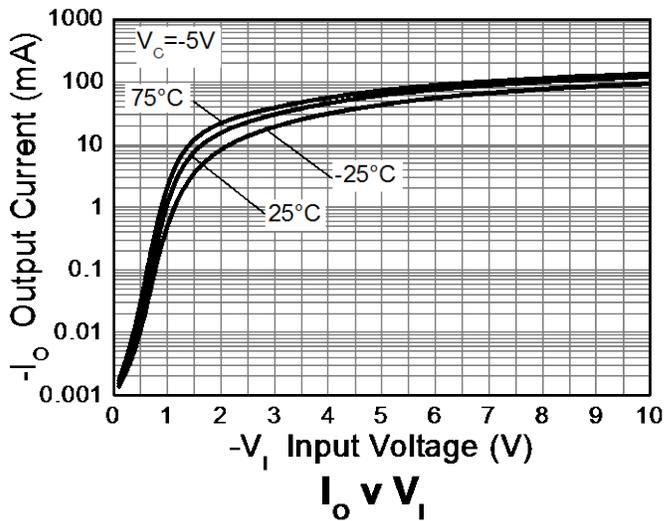
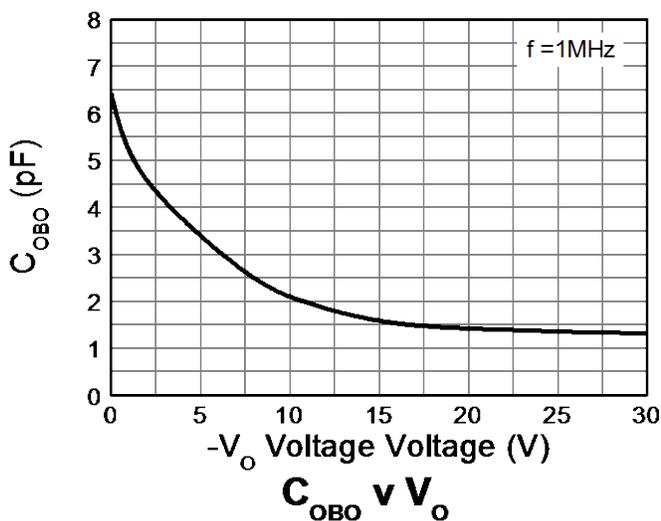
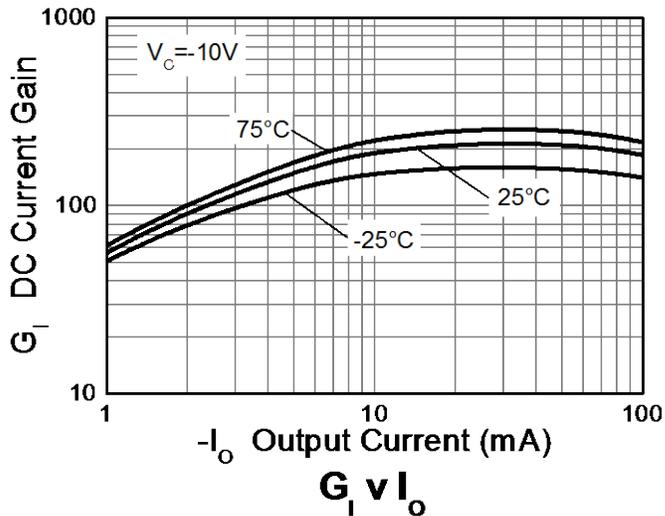
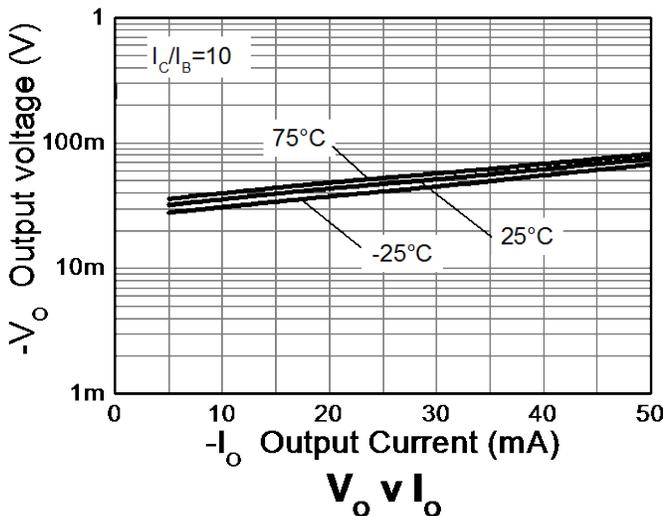


Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	$V_{I(\text{off})}$ (Note 7)	-0.3	—	—	V	$V_{CC} = -5V, I_O = -100\mu\text{A}$
	$V_{I(\text{on})}$ (Note 8)	—	—	-1.4		$V_O = -0.3, I_O = -1\text{mA}$
Output Voltage	$V_{O(\text{on})}$	—	-0.1	-0.3	V	$I_O/I_I = -5\text{mA} / -0.25\text{mA}$
Input Current	I_I	—	—	-0.88	mA	$V_I = -5V$
Output Current	$I_{O(\text{off})}$	—	—	-0.5	μA	$V_{CC} = -50V, V_I = 0V$
DC Current Gain	G_I	68	—	—	—	$V_O = -5V, I_O = -10\text{mA}$
Input Resistor (R_1) Tolerance	ΔR_1	-30	—	+30	%	—
Resistance Ratio Tolerance	R_2/R_1	-20	—	+20	%	—
Gain-Bandwidth Product (Note 9)	f_T	—	250	—	MHz	$V_{CE} = -10V, I_E = -5\text{mA}, f = 100\text{MHz}$

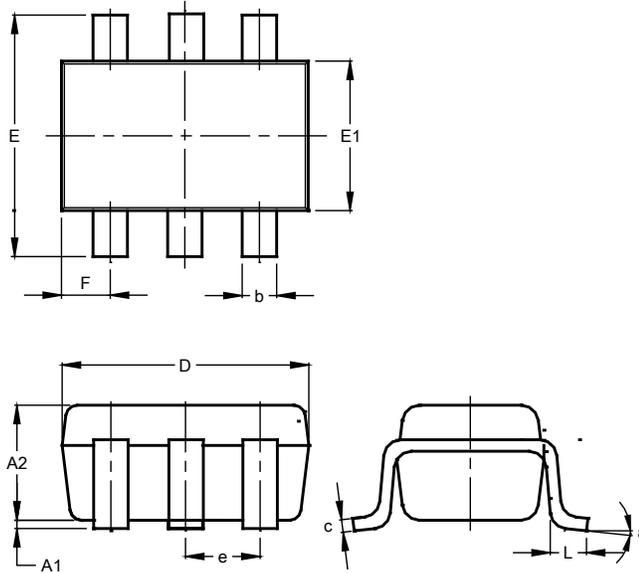
Notes: 7. Guarantees that the device will be switched OFF if the Input Voltage is less than -0.3V.
 8. Guarantees that the device will be switched ON if the Input Voltage is more than -1.4V.
 9. Transistor - For Reference Only.

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



Package Outline Dimensions

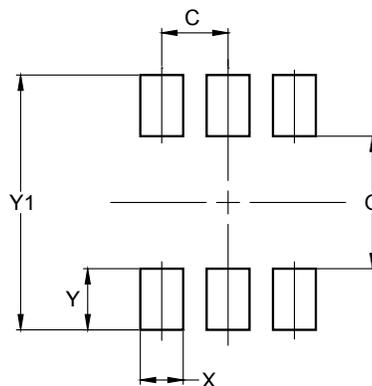
SOT363



SOT363			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	—
All Dimensions in mm			

Suggested Pad Layout

SOT363



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500