优尚

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

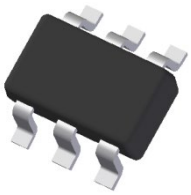
- Epitaxial Planar Die Construction
- Built-In Biasing Resistors

Mechanical Data

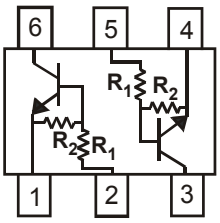
- Case: SOT363
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.006 grams (Approximate)

R1 (NOM)	R2 (NOM)
10kΩ	10kΩ

SOT363



Top View



Device Schematic

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

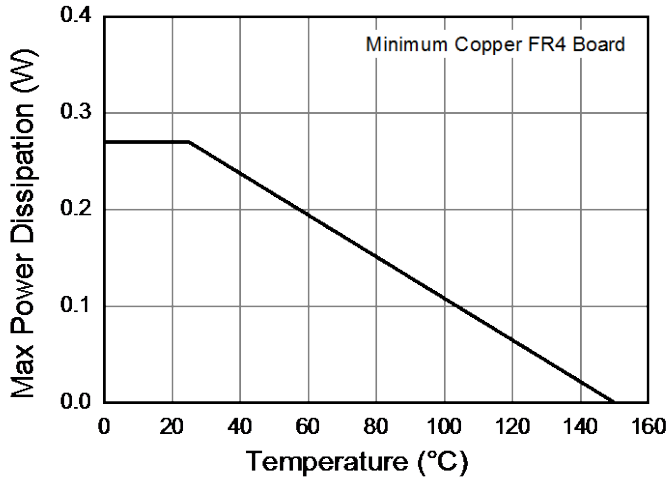
Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-5 to +40	V
Output Current	$I_{C(MAX)}$	100	mA

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

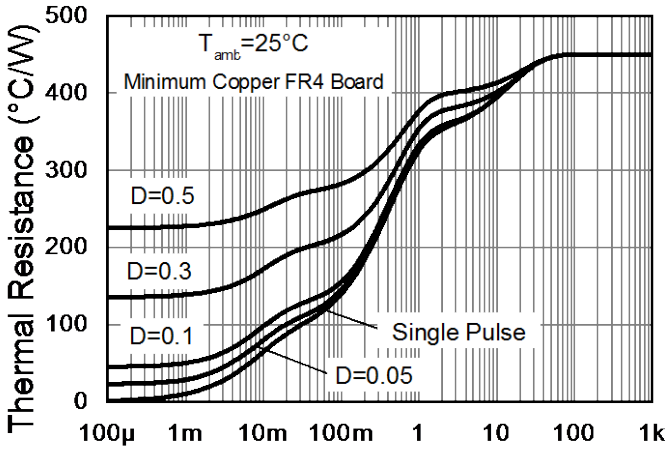
Characteristic	Symbol	Value	Unit
Power Dissipation (Notes 5 & 6)	P_D	270	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	450	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes: 5. Mounted on FR-4 PC Board with minimum recommended pad layout.
6. 150mW per element must not be exceeded.

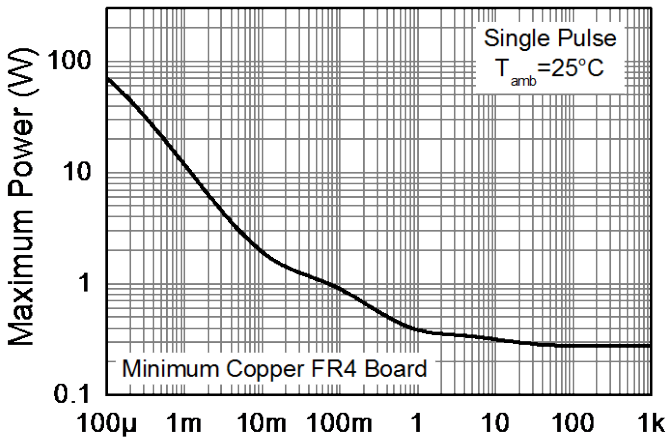
Thermal Characteristics and Derating Information



Derating Curve



Transient Thermal Impedance



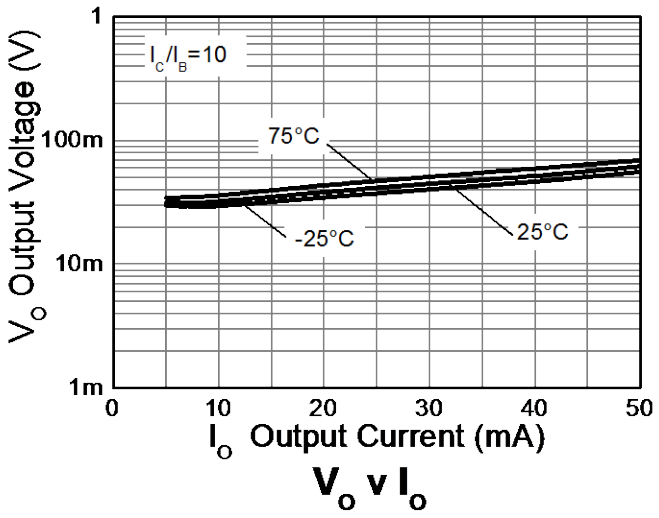
Pulse Power Dissipation

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

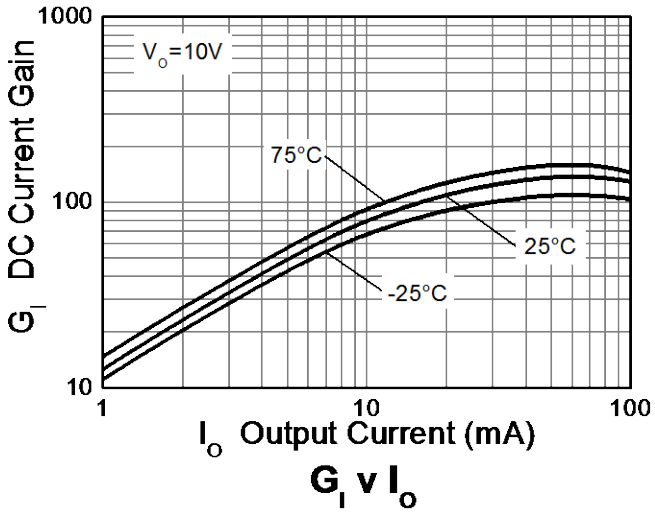
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	$V_{I(off)}$ (Note 7)	0.5	1.1	—	V	V_{CC} = 5V, I_O = 100μA
	$V_{I(on)}$ (Note 8)	—	1.9	3.0		V_O = 0.3V, I_O = 10mA
Output Voltage	$V_{O(on)}$	—	0.1	0.3	V	I_O/I_I = 10mA / 0.5mA
Input Current	I_I	—	—	0.88	mA	V_I = 5V
Output Current	$I_{O(off)}$	—	—	0.5	μA	V_{CC} = 50V, V_I = 0V
DC Current Gain	G_I	30	—	—	—	V_O = 5V, I_O = 5mA
Input Resistor (R_1) Tolerance	ΔR_1	-30	—	+30	%	—
Resistance Ratio Tolerance	$\Delta(R_2/R_1)$	-20	—	+20	%	—
Gain-Bandwidth Product (Note 9)	f_T	—	250	—	MHz	V_{CE} = 10V, I_E = 5mA, f = 100MHz

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

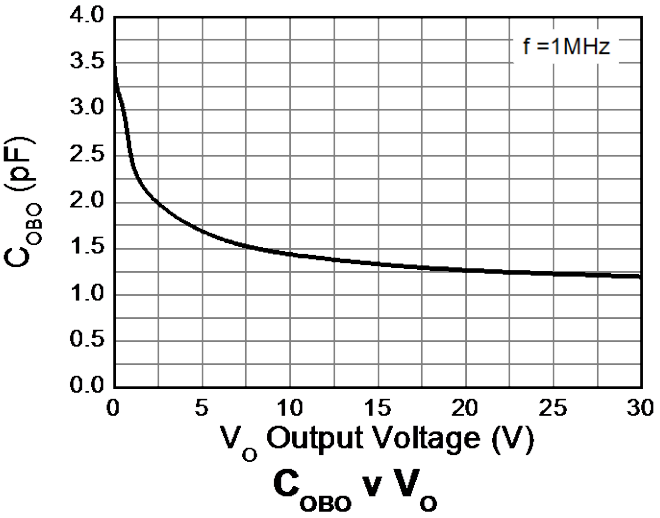
Typical Electrical Characteristics (@ T_A = +25°C, unless otherwise specified.)



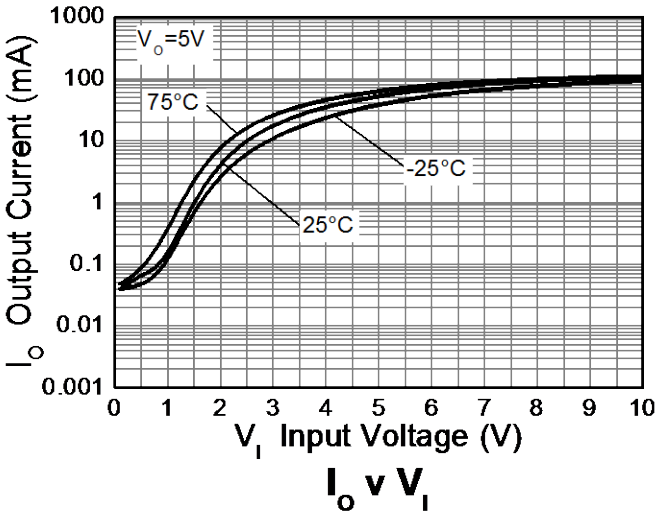
V_O v I_O



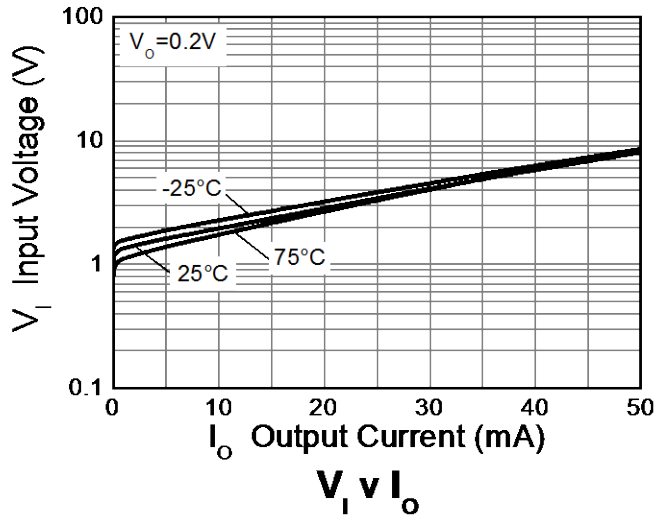
G_I v I_O



C_{OBO} v V_O



I_O v V_I



V_I v I_O

Package Outline Dimensions

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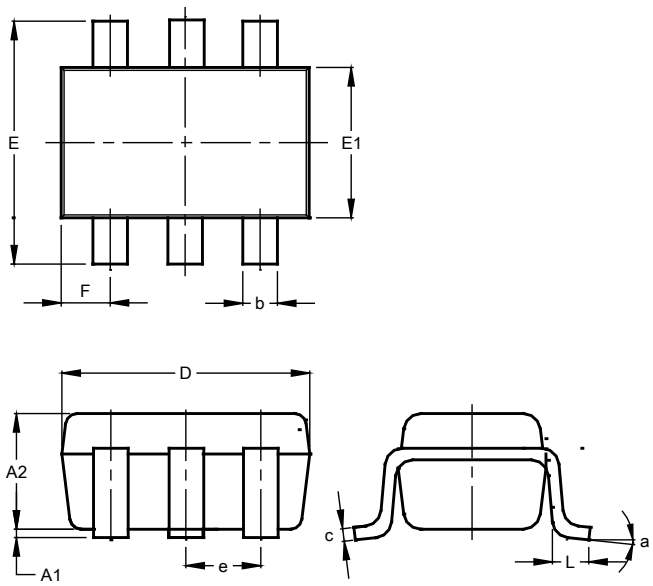

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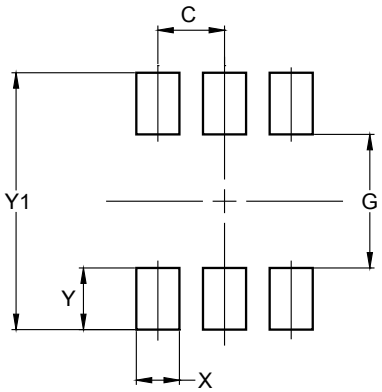
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

SOT363



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