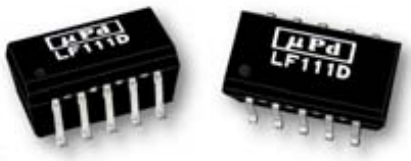
MicroPower Direct



1W Dual Output
Surface Mountable
DC/DC Converters
LF100D Series

Key Features

- Ultra-Miniature SMT Package
- 1W Output Power
- -40ºC to +85ºC Operation
- Lead Frame Technology
- 5V and 12V Inputs
- **Low Cost**

Electrical Specifications

Specifications typical @ +25ºC with nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	5 VDC Input	4.5	5.0	5.5	VDC
	12 VDC Input	10.8	12.0	13.2	
Reverse Polarity Input Current				1.0	A
Input Filter	Capacitor				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±3.0	%
Output Voltage Accuracy	Dual Output, Balanced Load		±0.1	±1.0	%
Line Regulation	For Vin Change of 1%		±1.2	±1.5	%
Load Regulation	See Model Selection Guide				
Ripple & Noise (20 MHz)			60	120	mV P - P
Ripple & Noise (20 MHz)	Over Line, Load & Temp.			150	mV P - P
Ripple & Noise (20 MHz)				5	mv rms
Output Power Protection		120			%
Temperature Coefficient			±0.01	±0.02	%/ºC
Output Short Circuit	Momentary (0.5 Sec.)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	1,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		40	100	pF
Switching Frequency		70	100	140	kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+85	ºC
Storage Temperature Range		-40		+125	ºC
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	0.60 x 0.31 x 0.26 Inches (15.24 x 8.0 x 6.7 mm)
Case Material	Non-Conductive Black Plastic
Weight	0.05 Oz (1.5g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25ºC, Gnd Benign		3.0		MHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		9.0	VDC
	12 VDC Input	-0.7		18.0	
Internal Power Dissipation	All Models			450	mW

Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

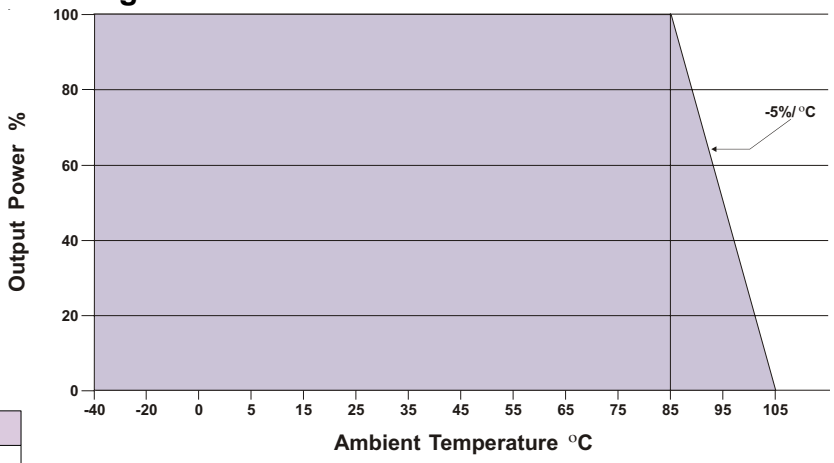
Model Selection Guide

Model Number	Input				Output			Load Regulation (%, Max)	Efficiency (%, Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)			
	Nominal	Range	Full-Load	No-Load						
LF101D	5	4.5 - 5.5	267	30	±5.0	±100.0	±2.0	10	75	500
LF102D	5	4.5 - 5.5	260	30	±9.0	±55.0	±1.0	10	76	500
LF103D	5	4.5 - 5.5	255	30	±12.0	±42.0	±0.8	8	79	500
LF104D	5	4.5 - 5.5	251	30	±15.0	±33.0	±0.7	7	79	500
LF111D	12	10.8 - 13.2	111	15	±5.0	±100.0	±2.0	8	75	200
LF112D	12	10.8 - 13.2	109	15	±9.0	±55.0	±1.0	8	76	200
LF113D	12	10.8 - 13.2	105	15	±12.0	±42.0	±0.8	5	80	200
LF114D	12	10.8 - 13.2	103	15	±15.0	±33.0	±0.7	5	80	200

Note:

1. Load regulation is measured for an output change of 20% to 100%.
2. The outputs of these units may be connected to provide a 5 VDC, 18 VDC, 24 VDC or 30 VDC output. To do this, connect the load across the positive (+Vout) and negative (-Vout) ouputs and float the ouput common.
3. These units do not require external comonents to operate, but the use of an input capacitor (10 µF) may enhance performance in some applications. For applications requiring lower output ripple levels, the addition of an output capacitor (4.7 µF to 10 µF) will typically achieve good results.

Derating Curve



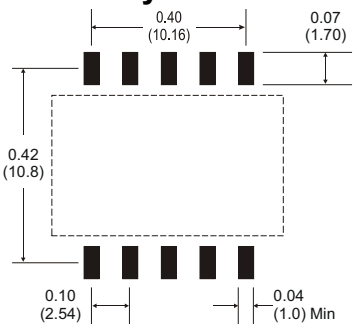
Pin Connections

Pin	Description	Pin	Description
1	-Vin	6	NA
2	+Vin	7	+Vout
3	NA	8	NA
4	Common	9	NA
5	-Vout	10	NA

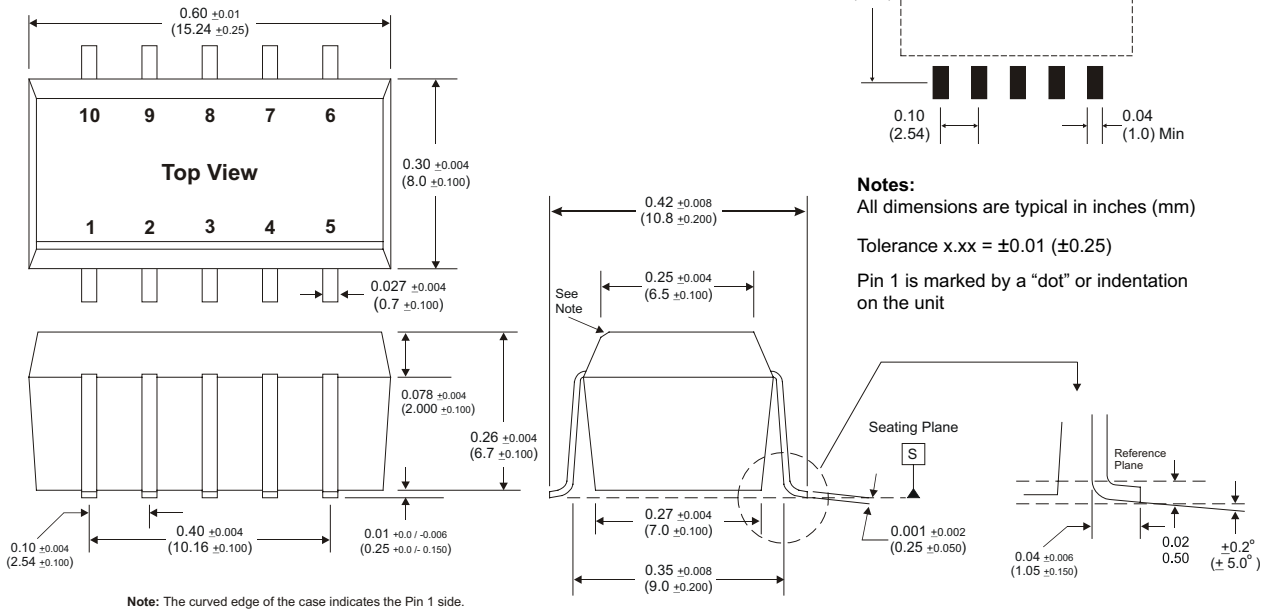
Capacitive Load

µF Max
±33

Board Layout



Mechanical Dimensions



Note: The curved edge of the case indicates the Pin 1 side.

Notes:
All dimensions are typical in inches (mm)

Tolerance x.xx = ±0.01 (±0.25)

Pin 1 is marked by a "dot" or indentation on the unit

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