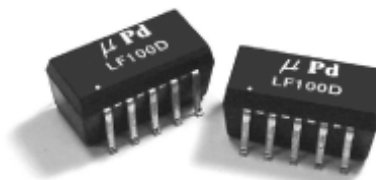




MicroPower Direct



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

Key Features

- Ultra-Miniature SMT Package
- 1W Output Power
- MTBF > 3,300,000 Hours
- 1,000 VDC Isolation
- CECC00802 Reflow (2801C)
- Low Cost

Electrical Specifications

Specifications typical @ +25°C 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	
Input Filter	Internal Capacitor				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±3.0	%
Output Voltage Balance	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	%/°C
Output Short Circuit				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		60	100	pF
Switching Frequency		70	100	140	kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+85	°C
Storage Temperature Range		-40		+125	°C
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 (1.3g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL STD 217F, 25°C, Grnd Benign		3.0		M Hours

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

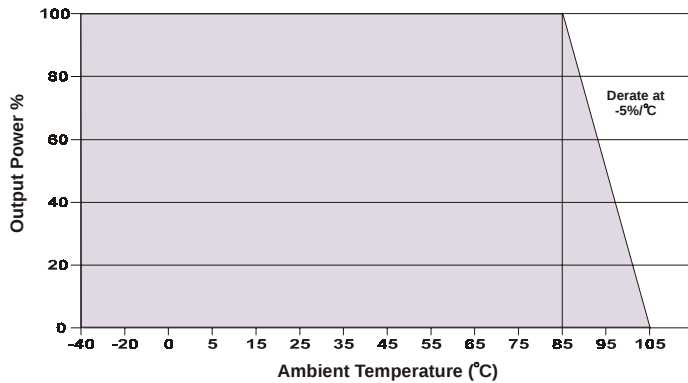
Caution: Exceeding these values can damage the module. These are not continuous operating ratings.

Model Selection Guide

Model Number	Input			Output			Regulation		Efficiency %, Typ.
	Voltage (VDC)	Current (mA)		Voltage (VDC)	Current (mA, Max.)	Current (mA, Min.)	Load Regulation % (Max.)	Load Regulation % (Max.)	
		Nominal	Full-Load						
LF101D	5.0	267.0	30.0	±5.0	±100.0	±2.0	1.5	10	75
LF102D	5.0	260.0	30.0	±9.0	±55.0	±1.0	1.5	10	76
LF103D	5.0	255.0	30.0	±12.0	±42.0	±0.8	1.5	8	79
LF104D	5.0	251.0	30.0	±15.0	±33.0	±0.7	1.5	7	79
LF111D	12.0	111.0	15.0	±5.0	±100.0	±2.0	1.5	8	75
LF112D	12.0	109.0	15.0	±9.0	±55.0	±1.0	1.5	8	76
LF113D	12.0	105.0	15.0	±12.0	±42.0	±0.8	1.5	5	80
LF114D	12.0	103.0	15.0	±15.0	±33.0	±0.7	1.5	5	80

Notes: 1. Load regulation is measured for an output change of 20% to 100%.
2. For applications requiring lower output ripple levels, the addition of a simple LC filter circuit externally will provide good results. Using component values of 4.7 uH and 4.7 uF will lower output ripple to about 35 mV pk - pk.

Derating Curve

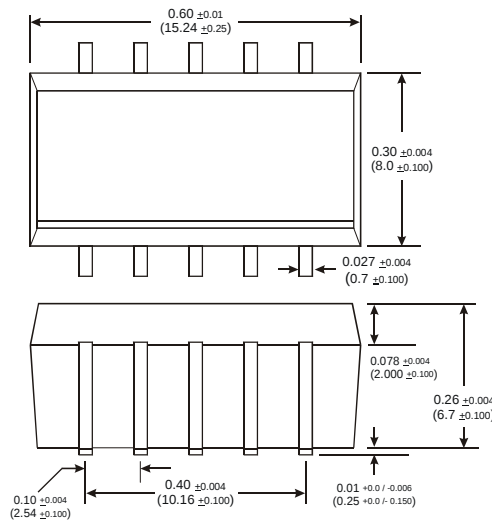


Pin Connections

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

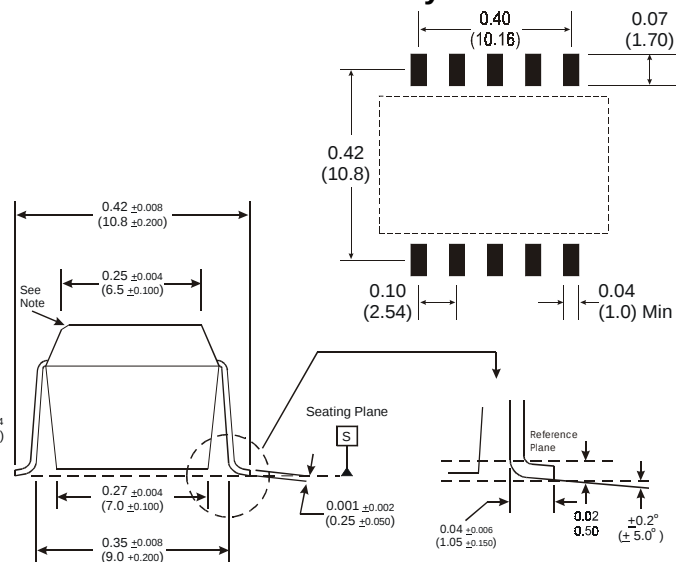
Notes:
All dimensions are typical in inches (mm)
Tolerance x.xx = ±0.01 (±0.25)
Pin 1 is marked by a "dot" or indentation on the top of the unit
Pins marked "NA" cannot be used for circuit connections

Mechanical Dimensions



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

Board Layout



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