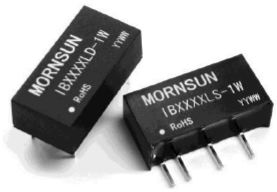
MORNSUN
Industrial DC&AC converter professional

IB_LD-1W & IB_LS-1W Series

1W, FIXED INPUT, ISOLATED & REGULATED SINGLE OUTPUT DC-DC CONVERTER



multi-country patent protection **Ro**

FEATURES

Small Footprint
SIP/DIP Package
Low Ripple and good EMC features
Temperature Range: -40°C to +85°C
No Heat Sink Required
No External Component Required
1KVDC Isolation
Internal SMD construction
Continuous Short Circuit Protection
Industry Standard Pinout
RoHS Compliance

APPLICATIONS

The IB_LD-1W & IB_LS-1W Series are specially designed for applications where a single power supply is highly isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

1) Where the voltage of the input power supply is fixed (voltage variation ≤±5%);
2) Where isolation is necessary between input and output (isolation voltage ≤1000VDC);
3) Where the regulation of the output voltage and the output ripple and noise are demanded.

MODEL SELECTION

IB0515LS-1W

- Rated Power
- Package Style
- Output Voltage
- Input Voltage
- Product Series

PRODUCT PROGRAM

Part Number	Input		Output			Efficiency (%, Typ)	Pac
	Voltage (VDC)		Voltage (VDC)	Current (mA)			
	Nominal	Range		Max	Min		
IB0505LD-W75	5	4.75-5.25	5	150	15	68	D
IB0509LD-1W			9	111	12	70	D
IB0512LD-1W			12	83	9	71	D
IB0515LD-1W			15	67	7	73	D
IB0505LS-W75			5	150	15	68	S
IB0509LS-1W			9	111	12	70	S
IB0512LS-1W			12	83	9	71	S
IB0515LS-1W			15	67	7	73	S
IB1205LD-W75	12	11.4-12.6	5	150	15	68	D
IB1209LD-1W			9	111	12	72	D
IB1212LD-1W			12	83	9	70	D
IB1215LD-1W			15	67	7	74	D
IB1205LS-W75			5	150	15	68	S
IB1209LS-1W			9	111	12	72	S
IB1212LS-1W			12	83	9	70	S
IB1215LS-1W			15	67	7	74	S
IB1505LS-W75	15	14.25-15.75	5	150	15	70	S
IB1509LS-1W *			9	111	12	71	S
IB1512LS-1W *			12	83	9	71	S
IB1515LS-1W			15	67	7	72	S
IB2405LD-W75*	24	22.8-25.2	5	150	15	68	D
IB2409LD-1W			9	111	12	68	D
IB2412LD-1W			12	83	9	73	D
IB2415LD-1W			15	67	7	75	D
IB2405LS-W75			5	150	15	68	S
IB2409LS-1W			9	111	12	68	S
IB2412LS-1W			12	83	9	73	S
IB2415LS-1W			15	67	7	75	S

* Designing.

COMMON SPECIFICATION

Item	Test condition	Min	Typ	Max	U
Storage humidity				95	
Operating temperature		-40		85	
Storage temperature		-55		125	
Temp. rise at full load			15	25	
Lead temperature	1.5mm from case for 10 seconds			300	
Short circuit protection		Continuous			
Cooling		Free air convection			
Case material		Plastic(UL94-V0)			

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ISOLATION SPECIFICATIONS

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute	1000			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

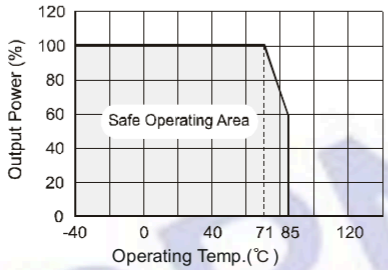
OUTPUT SPECIFICATIONS

Item	Test Conditions	Min	Typ	Max	Units
Output power		0.1		1	W
Line regulation	For Vin change of 5%			±0.25	%
Load regulation	10% to 100% load			±1	
Output voltage accuracy	100% full load			±3	
Temperature drift	100% full load			0.03	%/°C
Ripple*	20MHz Bandwidth		10	20	mVp-p
Noise*	20MHz Bandwidth		50	75	
Switching frequency	Full load, nominal input		100		KHz

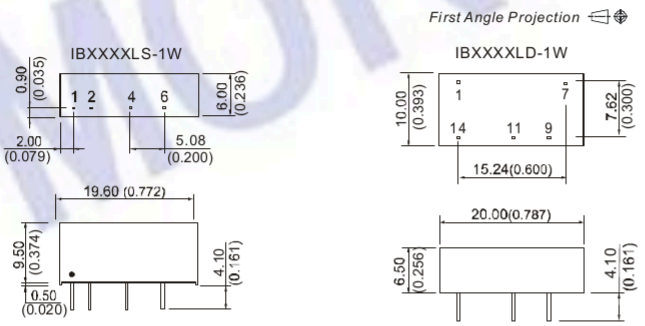
*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

Note:
1. All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. See below recommended circuits for more details.

TYPICAL TEMPERATURE CURVE



OUTLINE DIMENSION & PIN CONNECTIONS



RECOMMENDED FOOTPRINT
*Top view,grid:2.54*2.54mm(0.1*0.1inch), diameter:1.00mm(0.039inch)*

FOOTPRINT DETAILS

Pin	SIP
1	Vin
2	GND
4	0V
6	+Vo

FOOTPRINT DETAILS

Pin	DIP
1	GND
7	NC

APPLICATION NOTE

Requirement on output load

To ensure this module can operate effi and reliably, During operation, the mi output load is ***not less than 10%*** of the ful and that ***this product should neve operated under no load!*** If the actual power is very small, please connect a r with proper resistance at the output e parallel to increase the load, or us company's products with a lower rated power (IB_LD -W25/IB_LS-W25 series).

Recommended circuit

If you want to further decrease input/output ripple, an "LC" filtering networ be connected to the input and output ends DC/DC converter, see (Figure 1).

(Figure 1)

It should also be noted that the indu and the frequency of the "LC" filtering n should be staggered with the DC/DC freq to avoid mutual interference. Howeve capacitance of the output filter capacitor m proper. If the capacitance is too big, a s problem might arise. For every chan output, provided the safe and reliable ope is ensured, the greatest capacitance of it capacitor sees (Table 1).

EXTERNAL CAPACITOR TABLE (Table 1

Vin (VDC)	Cin (uF)	Vout (VDC)	Co (uF
5	4.7	5	10
12	4.7	9	4.7
15	2.2	12	2.2
24	1	15	1

It's not recommend to connect any external capa the application field with less than 0.5 watt output

No parallel connection or plug and play.