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### Description

The LDA1W8 series is a compact 1W isolated DC-DC converter housed in a SIP-8 package, supporting wide nominal input voltages of 24V DC. It provides stable single outputs from 3.3V to 15V with efficiencies up to 75%, high isolation up to 2kVDC, and reliable operation from -40°C to +100°C. Designed to meet EN62368-1 standards, it is ideal for industrial control, Telecom/ Datacom and measurement/ semiconductor equipment applications.

### Features

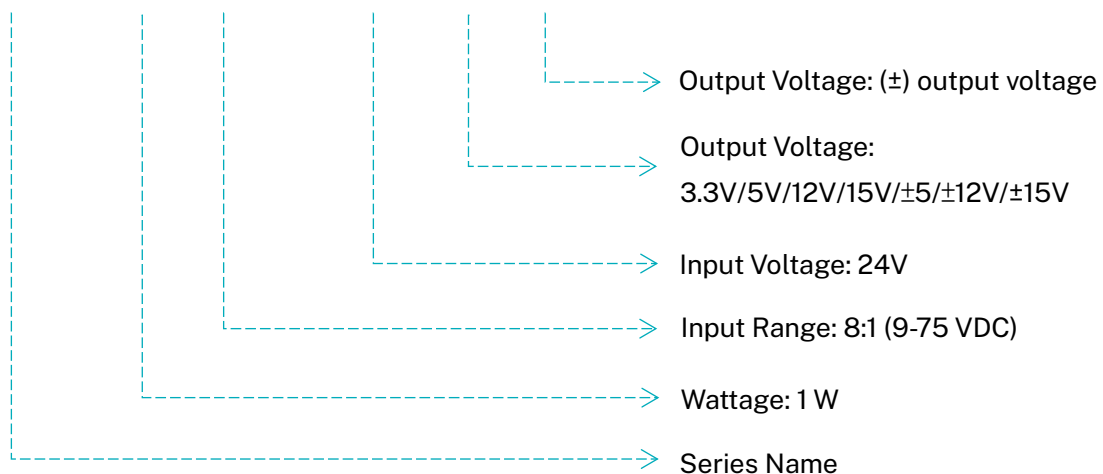
- 8:1 Wide input voltage range
- 2KVDC Isolated Voltage
- Efficiency up to 75%
- Operating temperature -40°C to +100°C
- Continuous short circuit protection
- External ON/OFF control

### Applications

- Industry Control System
- Telecom/ Datacom
- Measurement Equipment
- Semiconductor Equipment

### Model Numbering

LDA 1W 8 - 24 **12** D



## Model Selection Guide

Part No.	Input Voltage	Output Voltage	Output Current @ Full Load	Efficiency <sup>(1)</sup> (Typ)	Capacitor Load <sup>(2)</sup> (Max.)
LDA1W8-243.3	9-75 VDC Nom. 24VDC	3.3 VDC	310mA	73%	560 $\mu$ F
LDA1W8-2405		5 VDC	200mA	74%	470 $\mu$ F
LDA1W8-2412		12 VDC	84mA	74%	150 $\mu$ F
LDA1W8-2415		15 VDC	67mA	74%	100 $\mu$ F
LDA1W8-2405D		$\pm$ 5VDC	$\pm$ 100mA	74%	$\pm$ 220 $\mu$ F
LDA1W8-2412D		$\pm$ 12VDC	$\pm$ 42mA	75%	$\pm$ 100 $\mu$ F
LDA1W8-2415D		$\pm$ 15VDC	$\pm$ 34mA	75%	$\pm$ 68 $\mu$ F

## Notes

- #1: The efficiency is test by nominal input and max. full load @ 25°C
- #2: The capacitive load is test by minimum input and constant resistive load.
- #3: All specifications valid at nominal input voltage, full load and 25°C unless otherwise stated.

## Electrical Specification

<b>Model Number</b>		<b>LDA1W8-24□</b>
<b>Input</b>		
Input Voltage Range		9V-75VDC
No-Load Input Current		10mA
Start-Up Time		30ms @ 100% load at nominal Vin
Start-Up Voltage (0%-100% load)		4.5VDC
Under Voltage Lockout (0%-100% load)		7.5VDC
Input Surge Voltage (0.1s max)		100VDC
Remote ON/OFF	DC-DC ON	Open or 3.5-15VDC
	DC-DC OFF	Short or 0-1.2VDC
	Input Current (Remote off mode)	2mA
<b>Output</b>		
Voltage Accuracy		± 3%
Minimum Load		0%
Line Regulation (LL to HL 100% load)	Single Output	± 0.5%
	Dual Output	± 1.0%
Load Regulation (10% to 100% Load)	Single Output	± 1.0%
	Dual Output	± 1.5%
Cross Regulation		± 5% (Asymmetrical load 25%/100%)
Ripple & Noise		100 mVp-p (Nominal Vin)
Operating Frequency		300KHz (100% Load nominal Vin)
<b>Environment</b>		
Operating Temperature		-40-+100 °C with derating
Storage Temperature		-55-+125 °C
Max. Case Temperature		105°C

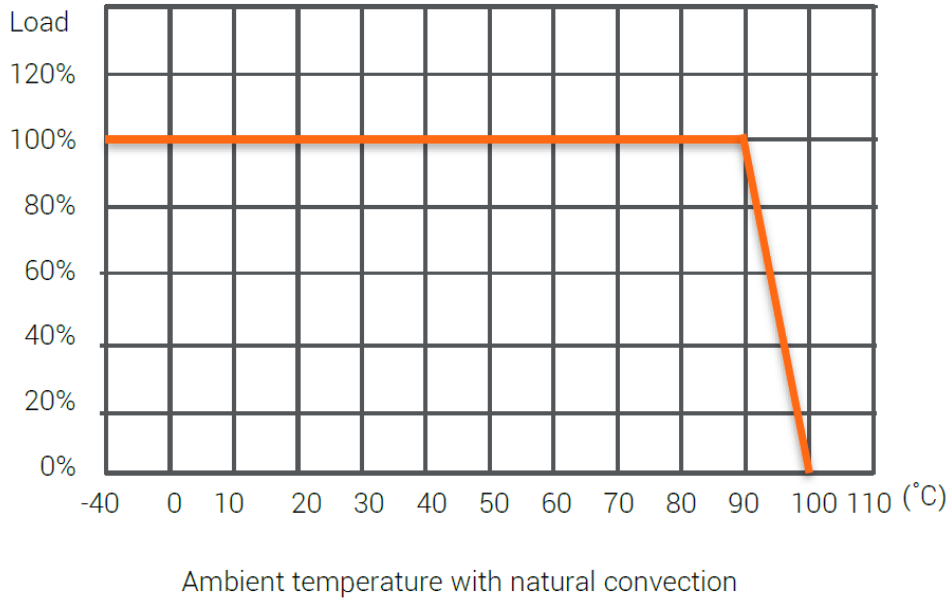
Relative Humidity	5%-95% RH
MTBF (MIL-HDBK-217F)	4500 KHours (+25°C)
<b>Function</b>	
Isolation Voltage	2 KVDC 1min. Input to Output
Isolation Resistance	1000 MΩ
Isolation Capacitance	50 pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	180%
Safety Approvals	EN62368-1
<b>Physical</b>	
Case Material	Non-conductive plastic
Potting Material	Silicone
Dimension	22.3 x 10.0 x 11.3 mm
Weight	4.5 g
Cooling Method	Free air convection
Vibration	MIL-STD-202G
<b>Electromagnetic Compatibility</b>	
Electromagnetic Interference	EN 55032 (Class A/B) with external filter
Radiated Immunity <sup>(2)</sup>	IEC 61000-4-3, 10 V/m
Electrostatic Discharge <sup>(2)</sup>	IEC 61000-4-2, Air±8kV; Contact±6kV (Criteria A)
Electrical Fast Transient <sup>(2)</sup>	IEC 61000-4-4, ±2kV (Criteria A)
Surge Immunity <sup>(2)</sup>	IEC 61000-4-5, ±2kV (Criteria A)
Conducted Immunity <sup>(2)</sup>	IEC 61000-4-6, 10V/rms (Criteria A)
Magnetic Field Immunity <sup>(2)</sup>	IEC 61000-4-8, 100A/m continuous, 1000A/m 1 second (Criteria A)

## Notes

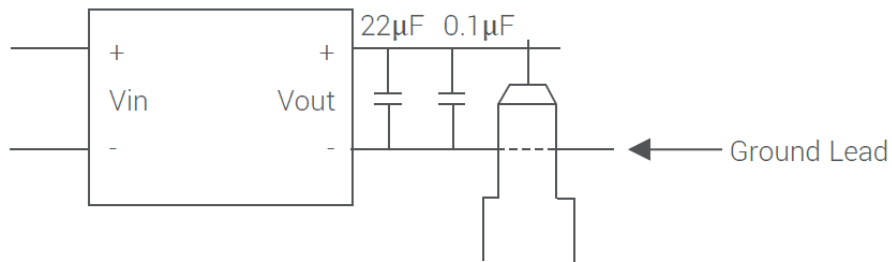
- #1: Ripple & Noise measured with 20MHZ BW at Vin range 0%~100% load with 22 $\mu$ F+0.1 $\mu$ F MLCC. Light load ripple & noise is no more than 150mVpp.
- #2: External input capacitor required 1000 $\mu$ F/100V.
- #3: All specifications valid at nominal input voltage, full load and 25°C unless otherwise stated.
- #4: The product information and specifications are subject to change without prior notice.
- #5: About EMI circuit, please check suggestion circuit.

### Mechanical Specification

#### Derating Curve

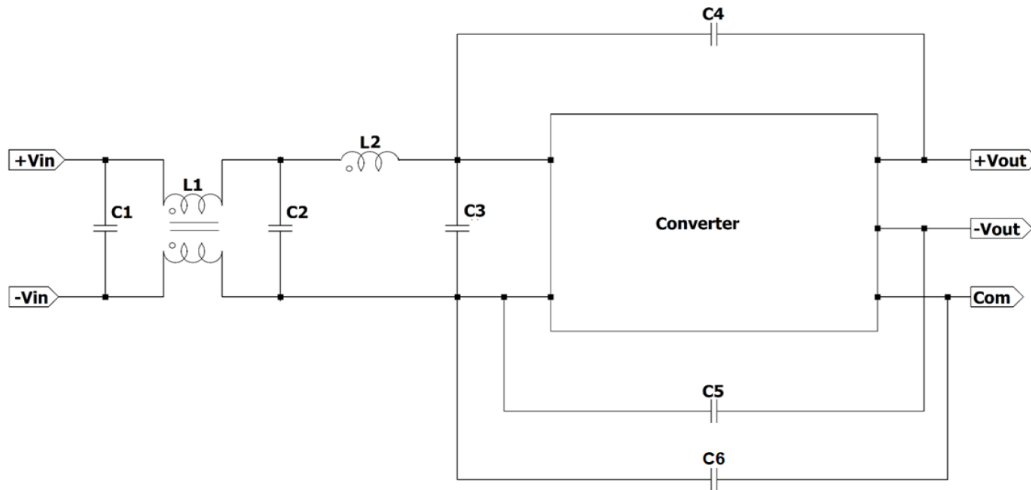


#### Ripple & Noise Measure Method



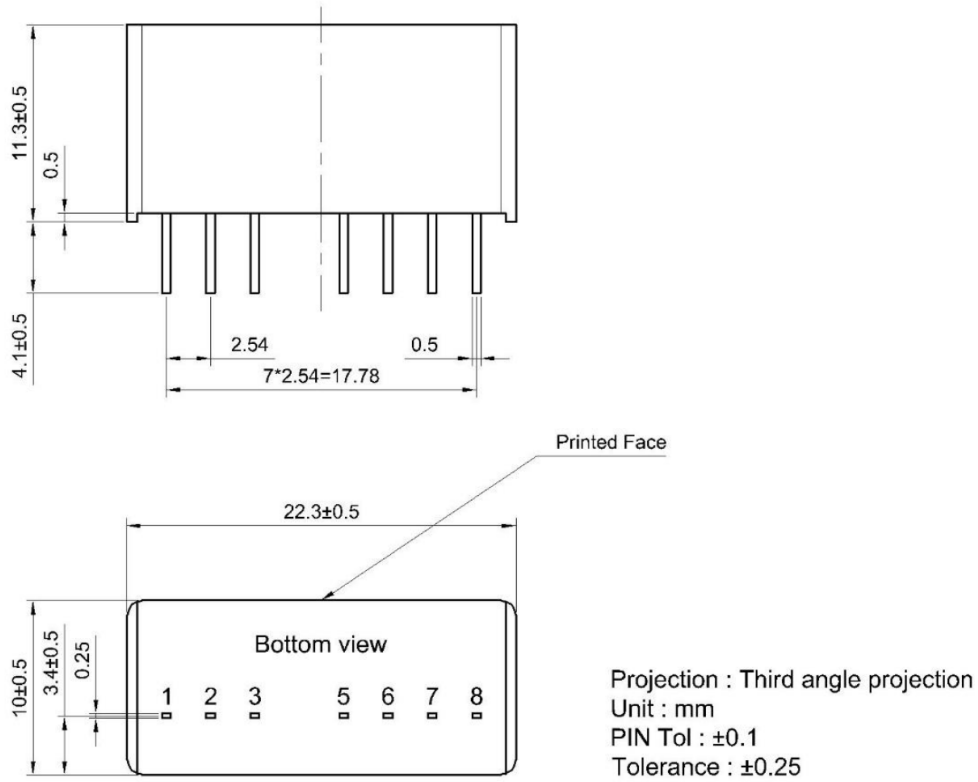
\*Measured with 20MHz bandwidth and  $22\mu F + 0.1\mu F$  ceramic capacitor.

### EMI Filtering-Suggestion for Class A/B



Model	Class A/B	C1	L1	C2	L2	C3	C4	C5	C6
Single output	Class-A	NA	Short	4.7 $\mu$ F/ 100V $\times$ 2	4.7 $\mu$ H	4.7 $\mu$ F/ 100V $\times$ 2	1000PF	1000PF	NA
Dual output		NA	Short	4.7 $\mu$ F/ 100V $\times$ 2	4.7 $\mu$ H	4.7 $\mu$ F/ 100V $\times$ 2	1000PF	1000PF	1000PF
Single output	Class-B	4.7 $\mu$ F/ 100V $\times$ 2	K10*20T 600 $\mu$ H	4.7 $\mu$ F/ 100V $\times$ 2	Short	NA	1000PF	1000PF	NA
Dual output		4.7 $\mu$ F/ 100V $\times$ 2	K10*20T 600 $\mu$ H	4.7 $\mu$ F/ 100V $\times$ 2	Short	NA	1000PF	1000PF	1000PF

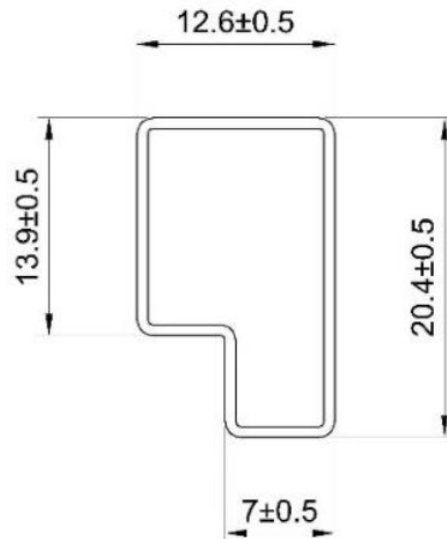
### Mechanical Dimension & Pinning



Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

### Package

### Anti-static liquid tube



UNIT : mm

1 Tube = 22 pcs

Length :  $520 \pm 2$

### Recommended Footprint

