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### Description

The LJA2W series is a compact 2W isolated DC-DC converter housed in a SIP-7 package, supporting wide nominal input voltages of 5V, 12V, 15V, and 24V DC. It provides stable bipolar asymmetric unregulated output, and reliable operation from -40°C to +105°C. Designed to meet UL62368-1 standards, it is ideal for industrial power supply, UPS control, industrial robotics, and server, telecom infrastructures applications.

### Features

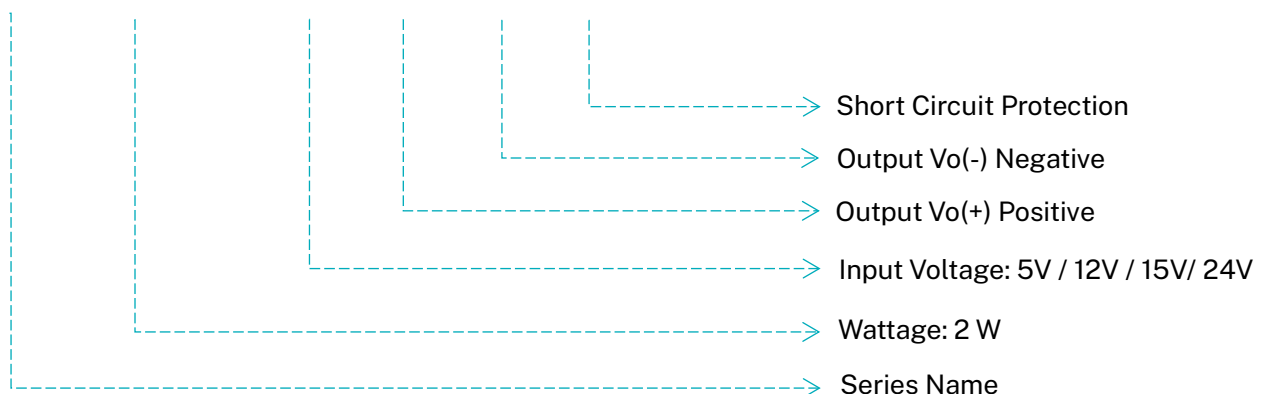
- 2 Watt SIP7 package
- 5000Vac isolation
- Performance optimized for IGBT/SiC
- Bipolar asymmetric unregulated output
- Low coupling isolation capacitance (Cio)
- Reinforced insulation, rate for 250Vac working voltage
- -40°C to +105°C operating temperature
- Short circuit protection
- UL62368 certification

### Applications

- Industry Power Supply, UPS
- Induction Heating
- Induction Robotics
- Server, Teleinfrastructures

### Model Numbering

LJA 2W - 05 20 05 P



## Model Selection Guide

Part No.	Input Voltage	Output Voltage	Output Current @ Full Load	Efficiency <sup>(1)</sup> (Typ.)	Capacitor Load <sup>(2)</sup> (Max.)
LJA2W-050603P	5V ± 10% (4.5-5.5VDC)	+6 / -3	+220 / -220	78%	330/680μF
LJA2W-051505P		+15 / -5	+80 / -40	84%	100/680μF
LJA2W-05182.5P		+18 / -2.5	+80 / -80	82%	100/680μF
LJA2W-05183.5P		+18 / -3.5	+80 / -80	84%	100/680μF
LJA2W-052004P		+20 / -4	+80 / -40	85%	100/680μF
LJA2W-052005P		+20 / -5	+50 / -200	81%	100/680μF
LJA2W-120603P	12V ± 10% (10.8-13.2VDC)	+6 / -3	+220 / -220	78%	330/680μF
LJA2W-12152.5P		+15 / -2.5	+100 / -100	85.5%	100/680μF
LJA2W-121503P		+15 / -3	+95 / -95	85%	100/680μF
LJA2W-121504P		+15 / -4	+120 / -120	86.5%	100/680μF
LJA2W-121505P		+15 / -5	+80 / -40	85%	100/680μF
LJA2W-12182.5P		+18 / -2.5	+80 / -80	86%	100/680μF
LJA2W-121803P		+18 / -3	+100 / -100	87%	100/680μF
LJA2W-122005P		+20 / -5	+90 / -90	87%	100/680μF
LJA2W-151805P <sup>(3)</sup>	15V ± 10% (13.5-16.5VDC)	+18 / -5	+87 / -87	85%	100/680μF
LJA2W-151509P <sup>(3)</sup>		+15 / -9	+84 / -84	85%	100/680μF
LJA2W-241503P	24V ± 10% (21.6-26.4VDC)	+15 / -3	+95 / -95	83.5%	100/680μF
LJA2W-241504P		+15 / -4	+120 / -120	85.5%	100/680μF
LJA2W-241505P		+15 / -5	+80 / -40	82%	100/680μF
LJA2W-241509P		+15 / -9	+80 / -40	85%	100/680μF
LJA2W-24182.5P		+18 / -2.5	+80 / -80	84.5%	100/680μF
LJA2W-242005P		+20 / -5	+90 / -90	85.5%	100/680μF

## Notes

- #1: The efficiency is test by nominal input and max. full load @ 25°C, the efficiency tolerance is ± 3%.
- #2: The capacitive load is test by minimum input and constant resistive load.
- #3: New release , safety certification not yet applied for this model.

## Electrical Specification

<b>Model Number</b>		LJA2W-□□□
<b>Input</b>		
Input Filter		Capacitors Filter
Start-up time		250ms
No Load Current	Vin = 5V	26mA
	Vin = 12V	16mA
	Vin = 15 V	15mA
	Vin = 24V	11mA
<b>Output</b>		
Voltage Accuracy		± 5% max. (Others)
		± 8% max. (LJA2W-050603P, LJA2W-120603P)
Minimum Load		0%
Line Regulation (LL to HL at 100% Load)		1.2%-1.5% @1% of Vin
Load Regulation (10% to 100% Load)		15% (Others)
		18% (LJA2W-050603P, LJA2W-121504P)
Ripple & Noise		100mVp-p (Others)
		120mVp-p (LJA2W-050603P)
Operating Frequency		100KHz @ 100% load at nominal Vin
<b>Environment</b>		
Operating Temperature		-40-+105 °C
Storage Temperature		-55-+125 °C
Max. Case Temperature		120 °C
Relative Humidity		5%-95% RH
<b>Function</b>		
Isolation Voltage		5 KVDC 1min. Input to Output
		6 KVDC 2sec. Input to Output
Isolation Resistance		1GΩ

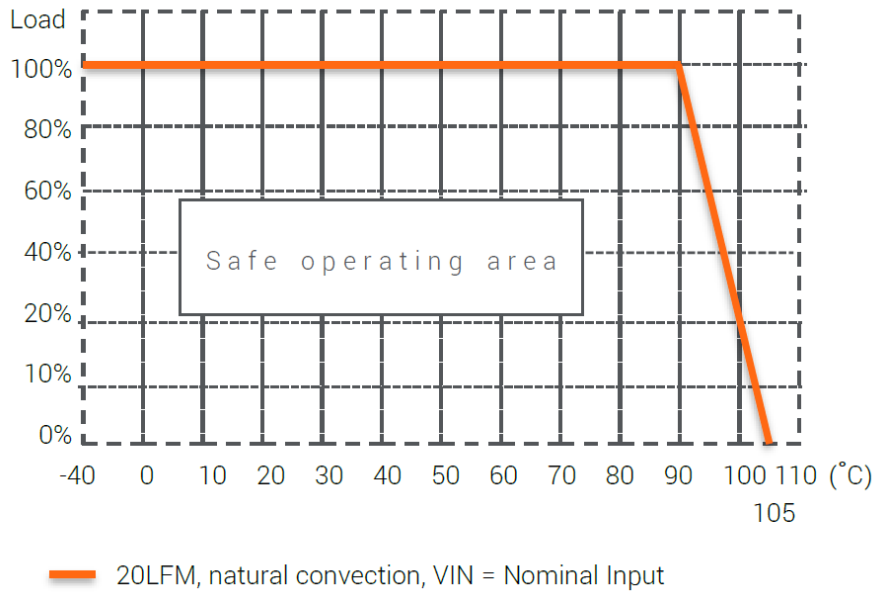
Isolation Capacitance	5 pF
MTBF (MIL-HDBK-217F)	14810K Hours (25°C)
Short Circuit Protection	Shut down, auto-recovery
Vibration	MIL-STD-202G/MIL-STD-810
Safety Approvals	EN62368-1/UL62368-1
<b>Physical</b>	
Case Material	UL94V-0 black plastic
Cooling Method	Free air convection
Dimension	19.65 x 7.05 x 10.20 mm
Weight	2.8g
<b>Electromagnetic Compatibility</b>	
Electromagnetic Interference	EN 55032 (Class A/B)
Electrostatic Discharge	IEC 61000-4-2, Air±15kV; Contact±8kV (Criteria A)
Radiated Immunity	IEC 61000-4-3, 10V/m (Criteria A)
Electrical Fast Transient	IEC 61000-4-4, ±2kV (Criteria A)
Surge Immunity	IEC 61000-4-5, ±2kV (Criteria A)
Conducted Immunity	IEC 61000-4-6, 10V/rms (Criteria A)
Magnetic Field Immunity	IEC 61000-4-8, 100A/m (Criteria A)

## Notes

- #1: All specifications valid at nominal input voltage, full load and 25°C unless otherwise stated.
- #2: The product information and specifications are subject to change without prior notice.
- #3: An external 0.1uF capacitor are placed between Vo+ and Vo-.
- #4: An external filter is placed between Vin+ and Vin-.

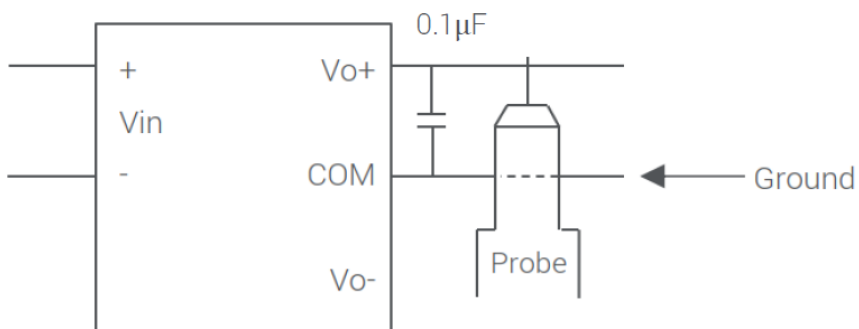
**Mechanical Specification**

**Derating Curve**

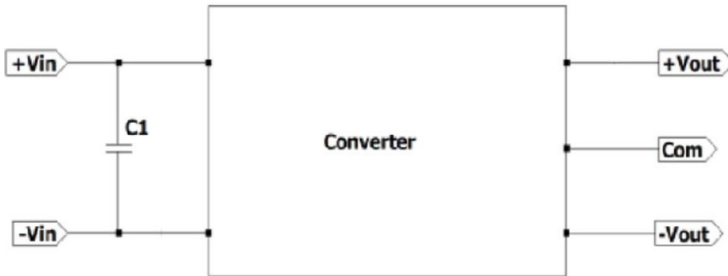


**Ripple & Noise Measure Method**

- Typical Ripple and Noise @ Ta = 25°C



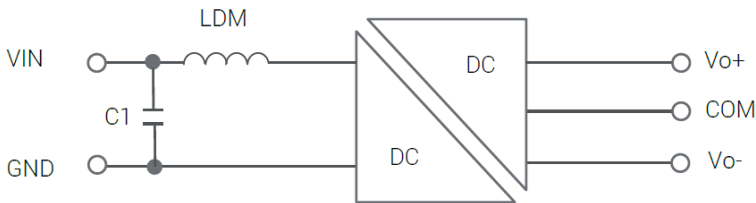
#### Application Circuit



Part No.	C1
LJA2W	22 $\mu$ F

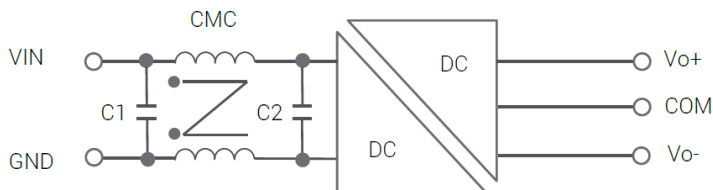
#### EMI Filtering-Suggestion for Class A/B

##### Others



C1	LDM
10 $\mu$ F	47 $\mu$ H

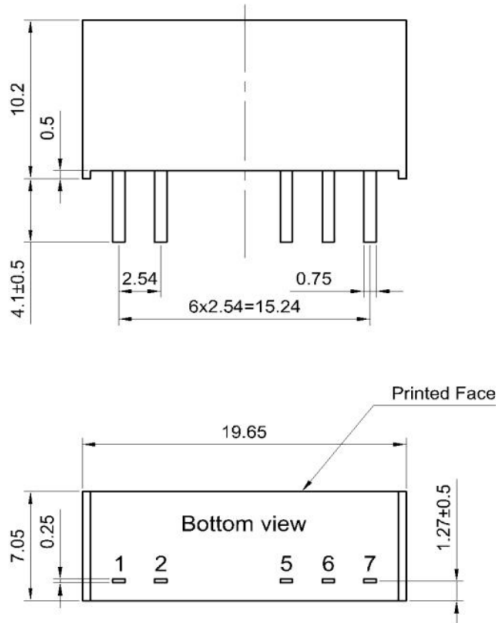
##### GDP2A-122005P



C1	CMC	C2
10 $\mu$ F	0.56 mH	10 $\mu$ F

Suggested filter and values to be EN55032/CISPR 32 class A or B compliant

#### Mechanical Dimension & Pinning

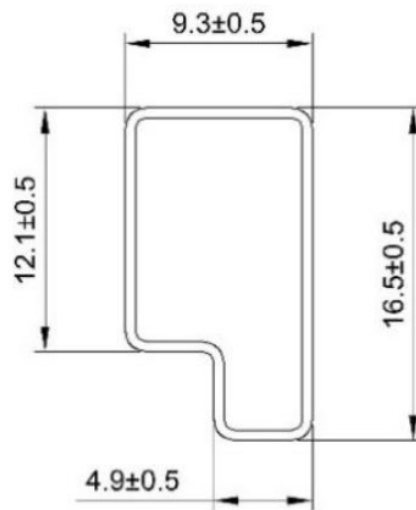


Projection : Third angle projection  
 Unit : mm  
 PIN setion tolerance : ±0.1  
 Tolerance unmarked : ±0.25

Pin	Single
1	+Vin
2	-Vin
5	-Vout
6	COM
7	+Vout

#### Package

#### Anti-static liquid tube



UNIT:mm  
 1 Tube = 25 pcs  
 Length:520±2mm