

HLK-10D1212B

MODULO DC-DC 12V A 12V



Multiple specifications of power module options

MULTIPLE SPECIFICATIONS AVAILABLE

The same type of power module has the same appearance, size, package and pin

MODEL	POWER	VOLTAGE	CURRENT
HLK-10D1205B	10W	5V	2000mA
HLK-10D1212B	10W	12V	833mA
HLK-10D1215B	10W	15V	666mA
HLK-10D1224B	10W	24V	416mA

*Wide voltage 9~18V (2:1) input, regulated output

*International standard pin size 50.8×25.4×11mm

Wide voltage (2:1) input, isolated and regulated single output
12VDC (9~18VDC) to 5/12/15/24VDC



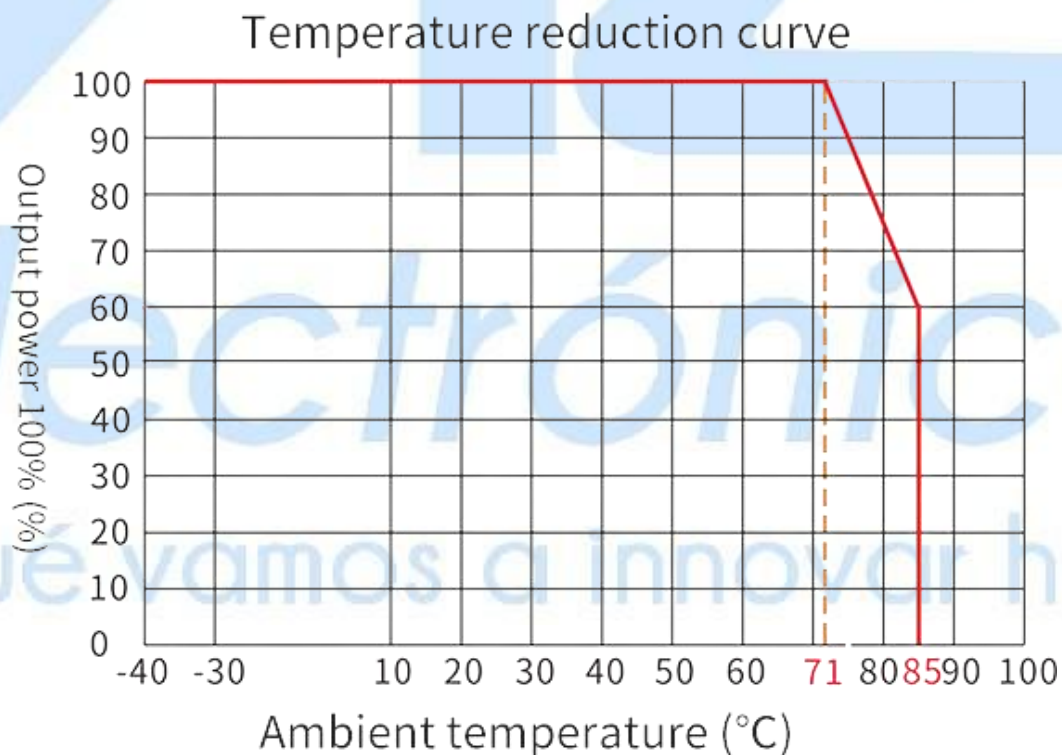
Schematic diagram of HLK-10D12XXB

- International standard pin
- Output over current/short circuit protection
- High efficiency 86%

PRODUCT FEATURES

- Ultra-thin small size standard package and standard pins
- Wide range input (2:1) voltage: 9~18VDC
- Low power consumption, environmental protection, standby power consumption is only 0.3W (typical value)
- Input and output isolation withstand voltage 1500VDC
- Ultra-fast startup: 100ms (typical value)
- High efficiency, conversion efficiency up to 86% (Typ)
- Operating temperature range: -40°C~+85°C
- Good output short circuit and over current protection and self-recovery
- High reliability, long life design, continuous work over 100000H
- Potting and sealing with high-quality environmentally friendly waterproof and thermal conductive glue, dustproof, moistureproof, shockproof and flame retardant
- Meet UL/CE/EMC and safety testing requirements
- Can be used in medical, industrial control, electric power, instrumentation, communication, railway and other fields

Operating temperature environment and load characteristics



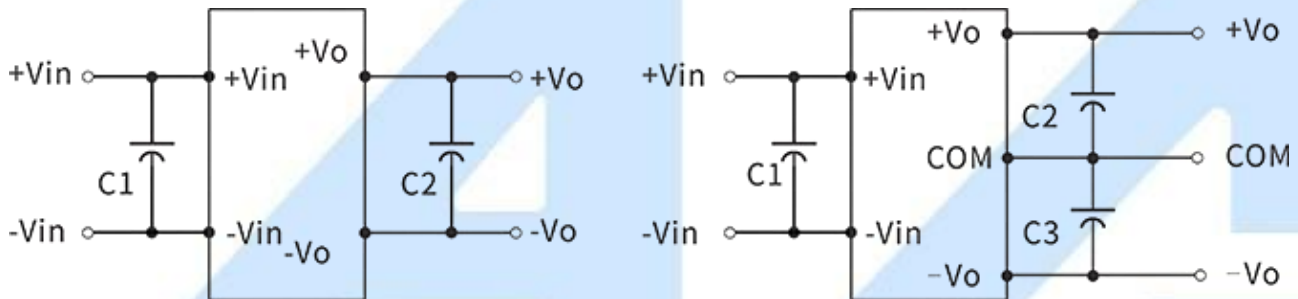
Typical application circuit

Recommended test circuit

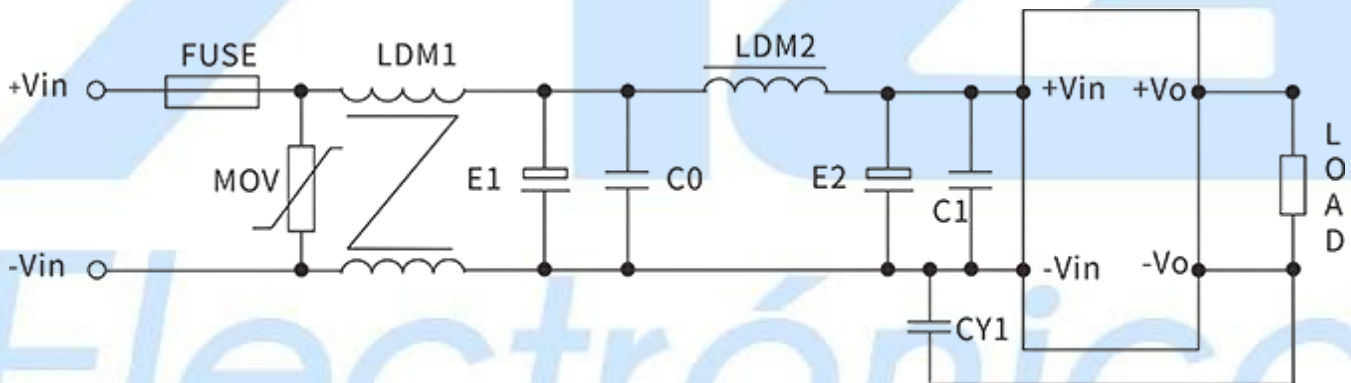
Generally recommended capacitance: C1: 47-100 μ F; C2, C3: 10-22 μ F.

All DC/DC converters of this series are tested according to the recommended test circuit shown in the figure below before leaving the factory.

If it is required to further reduce the input and output ripple, the input and output external capacitors C1, C2, C3 can be increased or selected in series with capacitors with a small equivalent impedance, but the capacitance cannot be greater than the maximum capacitive load of the product.



EMC solution-recommended circuit



Recommended parameters:

FUSE: Connect the corresponding fuse according to customer needs

MOV varistor: 14D330K

LDM1/common mode inductance: 2mH

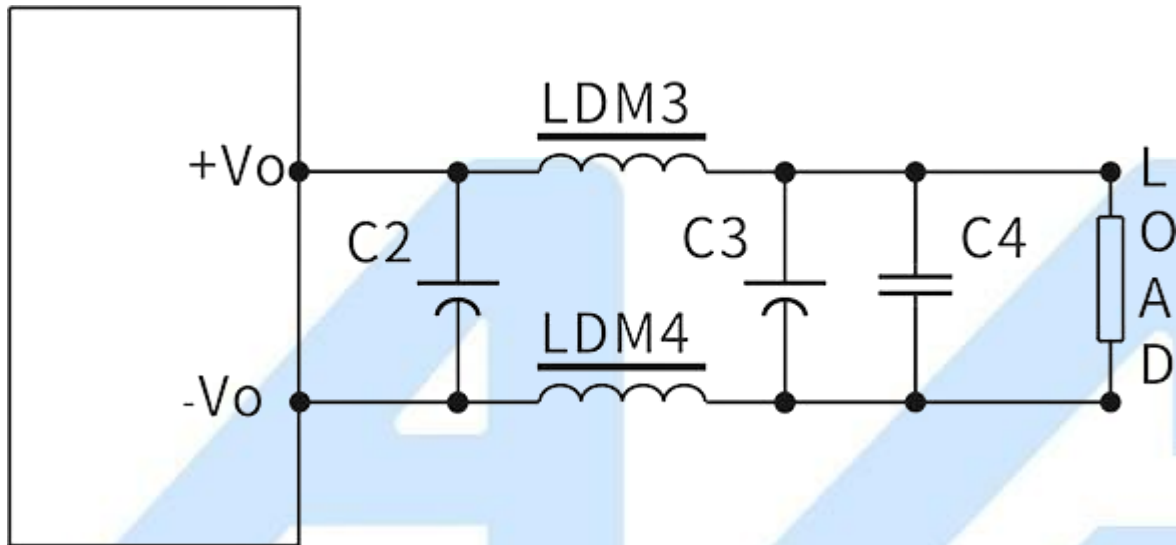
E1, E2 electrolytic capacitors: 470 μ F/50V

C0, C1 ceramic capacitors: 1 μ F/50V

LDM2 differential mode inductor: 4.7 μ H

CY1 safety Y2 capacitor: 1nF/250Vac

Output filter peripheral recommended circuit



Note:

1. C2 and C3 use high frequency and low resistance electrolytic capacitors, and the total capacity should not exceed the maximum capacitive load marked in the manual, otherwise the module will not start normally.
2. For capacitive load, a minimum load of 3% must be guaranteed, otherwise it will cause abnormal output of the module.

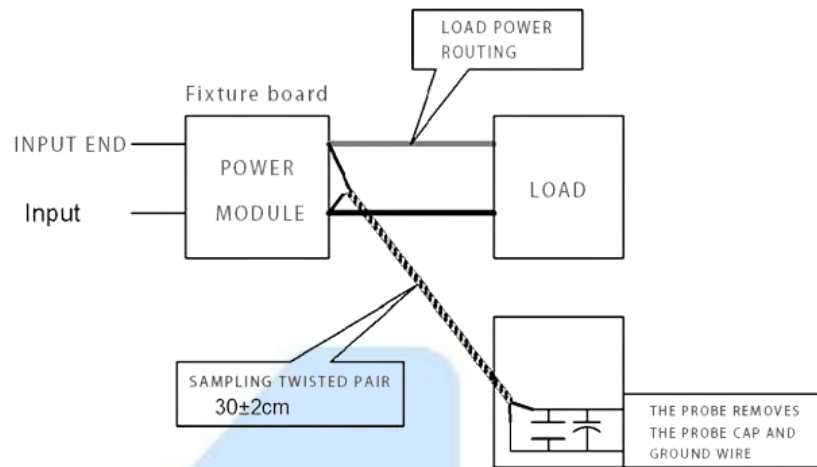
Recommended parameters:

LDM3/LDM4 inductance: 2.2 μ H

C2, C3 electrolytic capacitor: 100 μ F

C4 ceramic capacitor: 1 μ F/50V

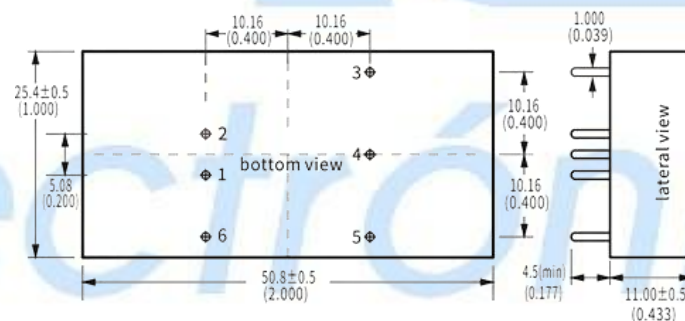
Ripple & noise test: twisted pair method 20MHz bandwidth



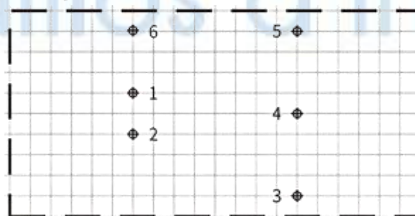
testing method:

1. Ripple noise is connected using 12# twisted pair, the oscilloscope bandwidth is set to 20MHz, 100M bandwidth probe, and 0.1uF polypropylene capacitor and 47uF high frequency low resistance electrolytic capacitor are connected in parallel to the probe end, and the oscilloscope sampling uses Sample sampling mode .
2. Connect the power input terminal to the input power source, and connect the power output to the electronic load through the fixture board. Use a 30cm±2cm sampling line to sample directly from the power output port for testing. The power line selects the corresponding wire diameter wire with insulation according to the output current. (As shown in FIG)

DIMENSIONS & WEIGHT



Unit: mm
 Printed board vertical view
 Lattice spacing: 2.54mm(0.1inch)
 Unmarked dimensional tolerances $\pm 0.3\text{mm}$
 Stitching diameter tolerance not marked $\pm 0.1\text{mm}$



Pin description:

1: -Vin input negative; 2: +Vin input positive; 3: +Vo output positive; 4: NC; 5: -Vo output negative; 6: NC

*Note: If the definition of each pin of the power module is not consistent with the selection manual, the marking on the physical label shall prevail.



 <div>AG Electrónica S.A.P.I. de C.V. República del Salvador N° 20 Segundo Piso Teléfono: 55 5130 - 7210</div>			
ACOTACIÓN: N/A	http://www.agelectronica.com	ESCALA: N/A	REALIZO: OGJ
			REV: JFRR
TOLERANCIA: N/A	MODULO DC-DC 12V A 12V		
TOLERANCIA: N/A	Fecha: 17/05/2022	No. Parte: HLK-10D1212B	