

EMC Filter



RoHS

FEATURES

- Universal 85-305VAC or 100-430VDC input voltage
- Operating ambient temperature range: -40°C to +85°C
- Ensure the power supply module to meet EMI the requirement of CISPR32/EN55032 Class B
- Ensure the power supply module to meet EMS the requirement of level 4

This product is suitable for occasions that are sensitive to noise, such as analog circuits. Installing FC-L01DR2 on the front of the AC/DC module, makes the system meet EFT of  $\pm 4KV$ (IEC/EN61000-4-4) and surge of  $\pm 2KV/\pm 4KV$ (IEC/EN61000-4-5) and EMI of Class B(CISPR32/EN55032).

Matching with Mornsun AC/DC module power supply, the maximum input voltage of the AC / DC module power supply should not be greater than the maximum working voltage of the EMC filter, and the maximum input current of the AC/DC module power supply should be less than the rated working current of the EMC filter.

Selection Guide

Part No.	Supporting The Power Module Part No.	Input Voltage Range (VAC)	Nominal Current (A)(RMS)
FC-L01DR2	LS05-13B12SR2S-F	85-305	0.2

General Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	85	°C
Storage Temperature		-40	--	105	
Isolation (Input-PE)	Electric Strength Test for 1min., leakage current <5mA	2000	--	--	VAC

Mechanical Specifications

Case Material	Black plastic, flame-retardant and heat-resistant (UL94V-0)
Dimension	33.70 x 22.20 x 18.00 mm
Weight	18g (Typ.)

Devise Standard

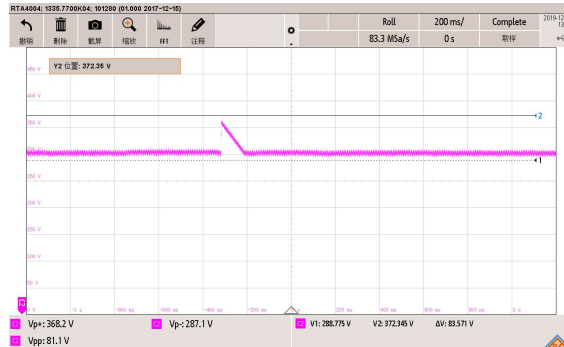
Installing FC-L01DR2 on the front of the Mornsun AC/DC module, makes the system meet EFT of  $\pm 4KV$ (IEC/EN61000-4-4) and surge of  $\pm 2KV/\pm 4KV$ (IEC/EN61000-4-5) and EMI of Class B(CISPR32/EN55032).

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B (Supporting AC/DC module)	
	RE	CISPR32/EN55032	CLASS B (Supporting AC/DC module)	
Immunity	EFT	IEC/EN61000-4-4	$\pm 4KV$ (Supporting AC/DC module)	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line $\pm 2 KV$ /line to ground $\pm 4 KV$ (Supporting AC/DC module)	perf. Criteria B

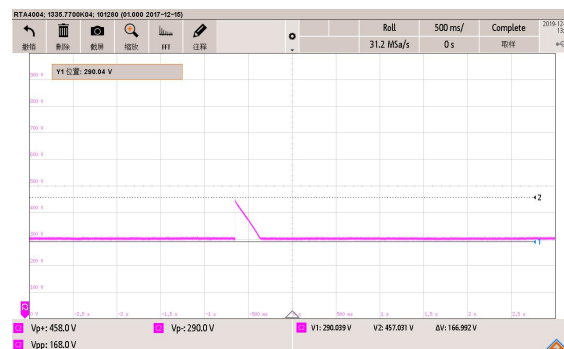
FC-L01DR2 Surge Test Result

① Line to line 2KV



Residual voltage of the internal bus of the product when inputting differential mode 2KV: 368.2V

② Line to ground 4KV



Residual voltage of the internal bus of the product when inputting common mode 4KV: 458.0V

Note: Above result was tested on FC-L01DR2+LS series modules (Input capacitors: 4.7uF).

Design Reference

1. Inside schematic

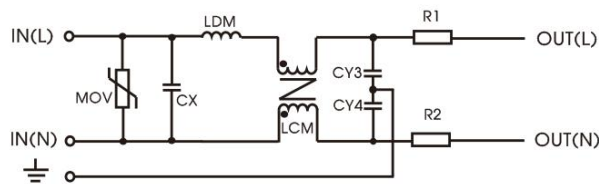


Fig. 1

2. Typical application

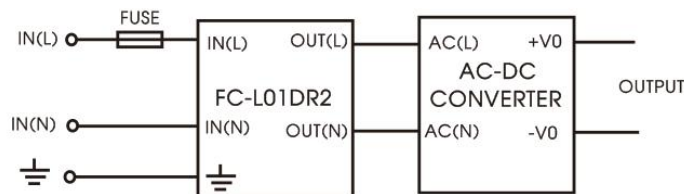


Fig 2

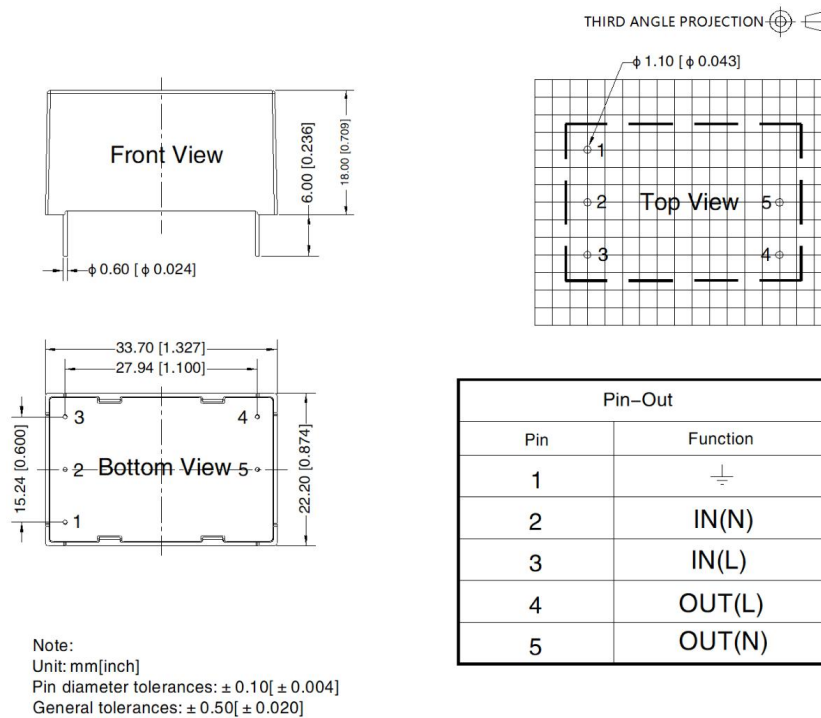
FUSE: 2A/300V, slow-blow, required.

3. Supporting the power module product model

Part No.	EMI (Typical Application Circuit)	EMI (With EMC filter)	EFT (Typical Application Circuit)	EFT (With EMC filter)	Surge (Typical Application Circuit)	Surge (With EMC filter)
LS05-13B12SR2S-F	CISPR32/ EN55032 CLASS A	CISPR32/ EN55032 CLASS B	IEC/EN61000-4-4 ±2KV	IEC/EN61000-4-4 ±4KV	IEC/EN61000-4-5 ±1KV/±2KV	IEC/EN61000-4-5 ±2KV/±4KV

4. For additional information please refer to application notes on [www.mornsun-power.com](http://www.mornsun-power.com)

Dimensions and Recommended Layout



Pin-Out	
Pin	Function
1	
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)

Note:

- For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58200055;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^{\circ}\text{C}$ , humidity<75% with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our company corporate standards;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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