

Common mode inductance



RoHS

FEATURES

- Operating ambient temperature range: -40°C to +105°C
- Compact size

FL4D-Z8-302-XJ — one of Mornsun's common mode inductance, which is designed for three-phase power products. After adding a FL4D-Z8-302-XJ at the input of the module, the EMC performance can be significantly optimized.

Selection Guide

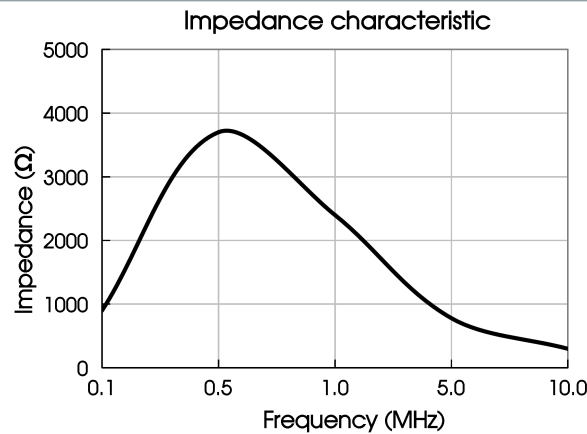
Model	Inductance (μH) (typ)	DCR (mΩ) Max.	Operating Current (A) Max.	Operating Voltage Max.	Weight (g) (typ)	Size(L*W*H)
FL4D-Z8-302-XJ	3000*4	170*4	1	600VAC/1000VDC	17	25.00 x 17.00 x 27.00mm

General Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature*		-40	--	105	°C
Storage Temperature		-40	--	105	
Storage Humidity		--	--	95	%
Inductance	fo=10KHz, Uo=0.1V	-40	--	+50	%
Withstand Voltage	Any two phase, Electric Strength Test for 1min., leakage current <5mA	--	--	2500	VAC

Note: Operating Temperature range includes inductor self heating.

Attenuation specifications (reference value)



Pin Function

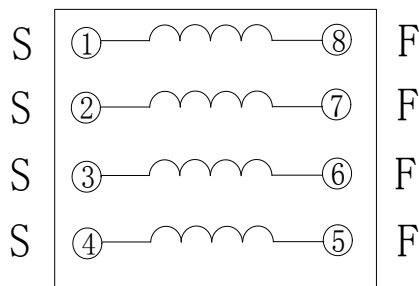


Fig. 1

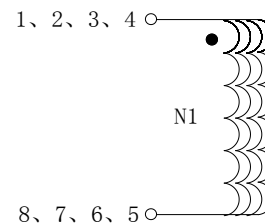


Fig. 2

Design Reference

1. Typical application

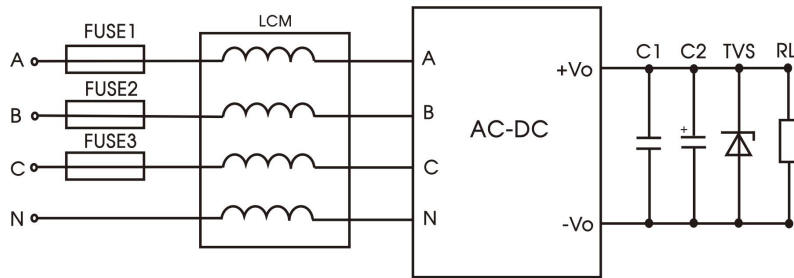


Fig.3: Typical circuit diagram

FUSE1/FUSE2/FUSE3	C1	C2	TVS	LCM
3.15A/250V (Three-phase four-wire input), slow-blow, required	1 μ F/50 V	100 μ F/ 50V	SMBJ20A	3mH, four- wirewinding in parallel (recommended to use MORNSUN's FL4D-Z8-302-XJ)
3.15A/500V (Any phase input), slow-blow, required				

Output Filter Components:

We recommend using an electrolytic capacitor with high frequency, and low ESR rating for C2 (refer to manufacture's datasheet). Choose a capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C1 is a ceramic capacitor used for filtering high-frequency noise and TVS is a recommended suppressor diode to protect the application in case of a converter failure.

2. EMC compliance recommended circuit 1

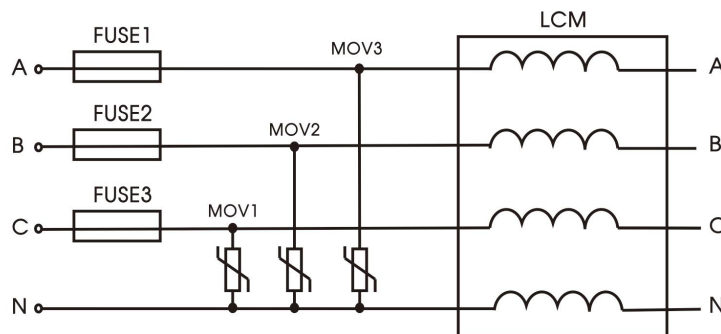
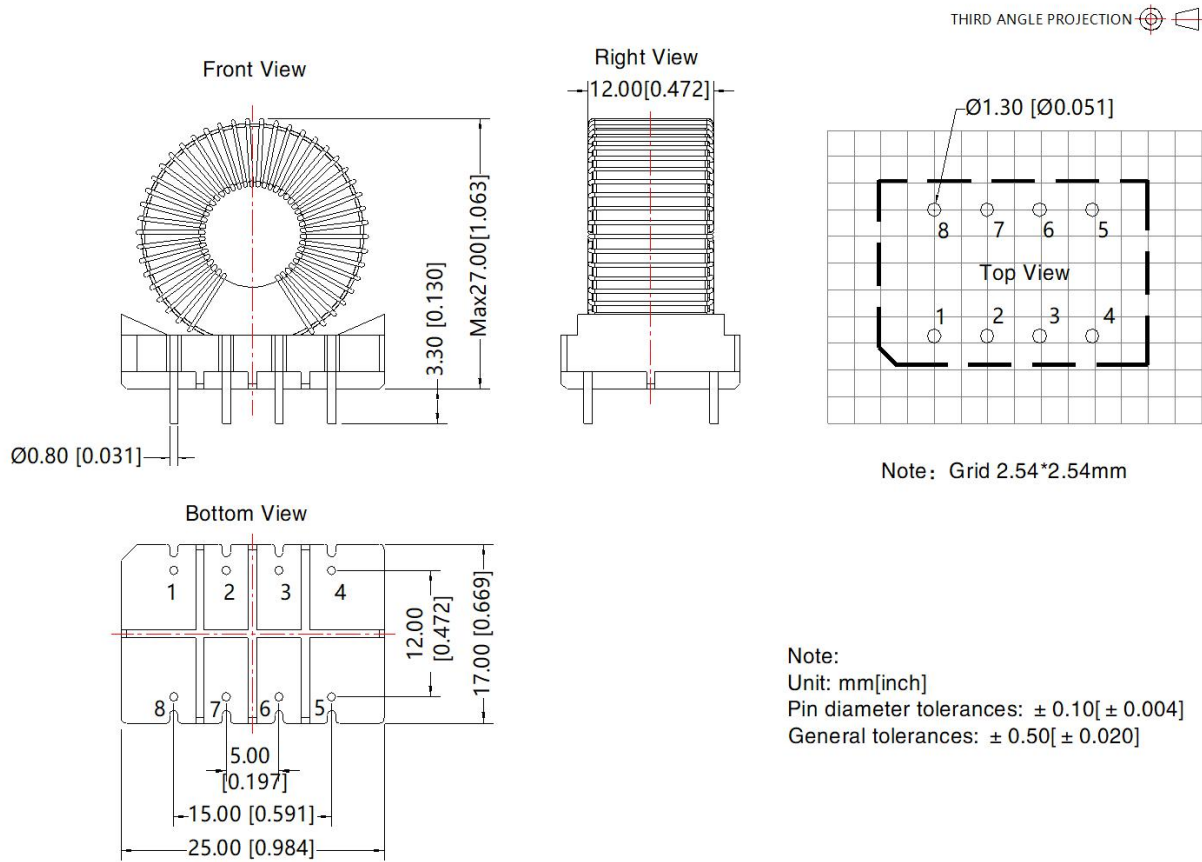


Fig 4: EMC circuit for harsh requirements 1

Component	Recommended value
MOV1/MOV2/MOV3	S20K510
FUSE1/FUSE2/FUSE3	3.15A/250V (Three- phase four-wire input), slow-blow, required
	3.15A/500V (Any phase input), slow-blow, required
LCM	3mH, four- wirewinding in parallel (recommended to use MORNSUN's FL4D-Z8-302-XJ)

3. For additional information please refer to application notes on www.mornsun-power.com.

Dimensions and Recommended Layout



Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220139;
2. Unless otherwise specified, data in this data sheet should be tested under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75%RH;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. The performance indexes of the product models listed in this manual are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technicians for specific information;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" ;
7. 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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