

EMC Filter



FEATURES

- Ultra wide input voltage range: 0-305VAC / 0-430VDC
- Ultrathin volume: 50.8 x 40.6 x 11.8 mm
- Operating ambient temperature range: -40°C to +105°C
- EMC compliance : IEC/EN61000-4、CISPR32/EN55032
- High surge suppression capability: 2kV/4kV
- Insertion loss: CM&DM>65dB @ 800kHz

The EMC grade of IEC/EN61000-4 series and CISPR32/EN55032 standards can be improved by adding FC-LXXQB to the front end of AC brick power supply. The maximum input voltage of the power supply should not be greater than the maximum operating voltage of the filter, and the maximum input current should be less than the maximum operating current of the filter.

Selection Guide

Model	Operating Voltage(VAC)		Operating Current(A)		Surge Performance	Matching The Power Model	Certification
	Typ. (Range)	Max*	Typ.	Max			
FC-L04QB	230 (0-305)	310	-	4.0	Line - Line ±2kV Line - PE ±4kV	LBH150-13BXX LBH300-13BXX	CE/UKCA

Note: 1.* The input voltage must not exceed this value, otherwise permanent and unrecoverable damage may be caused;

2.* The matched power supply model is for reference, the filter can be adapted to other power supplies according to the actual situation. For help, please consult our FAE.

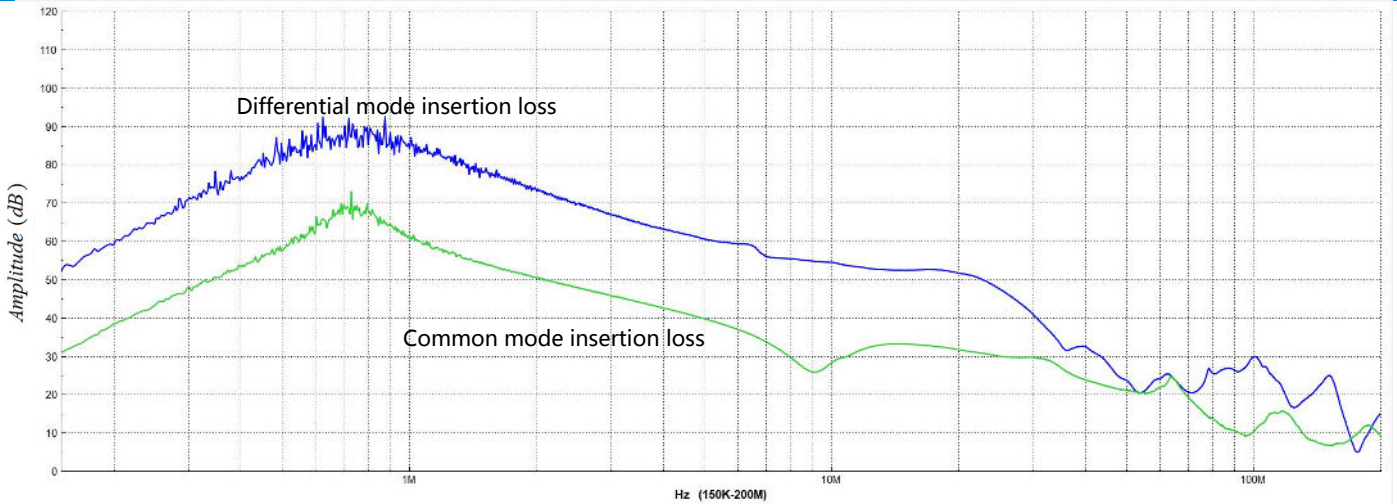
General Specifications

Item	Test Conditions	Min.	Typ.	Max.	unit
Operating Temperature		-40	--	+105	°C
Storage Temperature		-40	--	+125	
Storage Humidity		--	--	95	%RH
Isolation Voltage	IN(L) ~ PE, IN(N) ~ PE, test time 1 minute, leakage current < 5mA	3000	--	--	VAC
MTBF		MIL-HDBK-217F@25°C ≥300,000 h			
Impact and Vibration test		10-55Hz, 5G, 30 Min. along X, Y and Z			
Altitude	80-110kPa	≤5000m			
Insertion loss (CM/DM)	150kHz~1MHz	30	35	-	dB
	1MHz~10MHz	25	30	-	dB
	10MHz~30MHz	20	25	-	dB

physical characteristics

Case Material	Aluminum alloy
Dimension	50.80 x 40.60 x 11.80mm
Weight	40g(Typ.)
Cooling Method	Free air convection

Insertion Loss Specifications

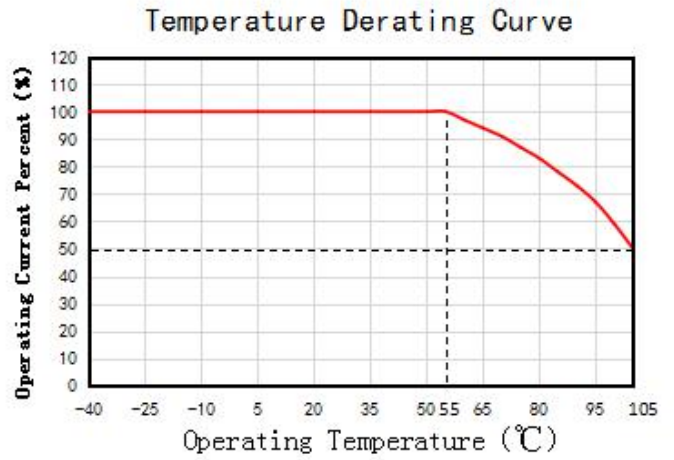
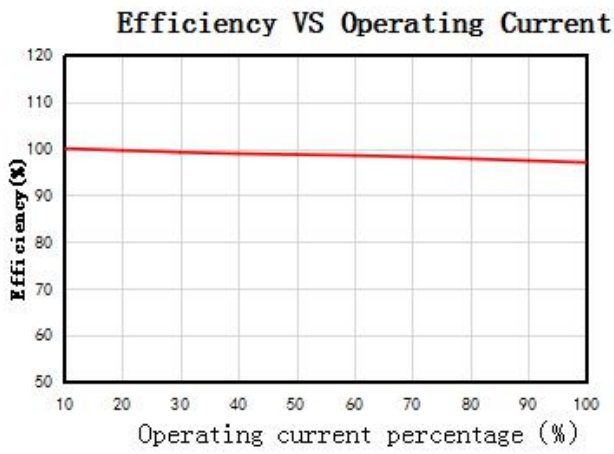


EMC characteristics

EMI	CE	CISPR32/EN55032	CLASS A	
	RE	CISPR32/EN55032	CLASS A	
EMS	ESD	IEC/EN61000-4-2	Contact ±4kV , Air ±6kV	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±4kV	perf. Criteria A
	CS	IEC/EN61000-4-6	10V r.m.s	perf. Criteria A
	PFMF	IEC/EN61000-4-8	50/60Hz 30A/m	perf. Criteria A
	Surge	IEC/EN61000-4-5	Line - Line ±2kV Line - PE ±4kV	perf. Criteria A

Note: Matching FC-L04QB to the front end of the LBH150/300-13BXX series power supply can make the power module meet above EMC characteristics.

Product Typical Curve



Note: This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.

Design Reference

Typical application

- ① Matching the LBH150/300-13BXX series of AC brick power supply.
- ② "⊗" stands for screws connecting heat sink to aluminum substrate.

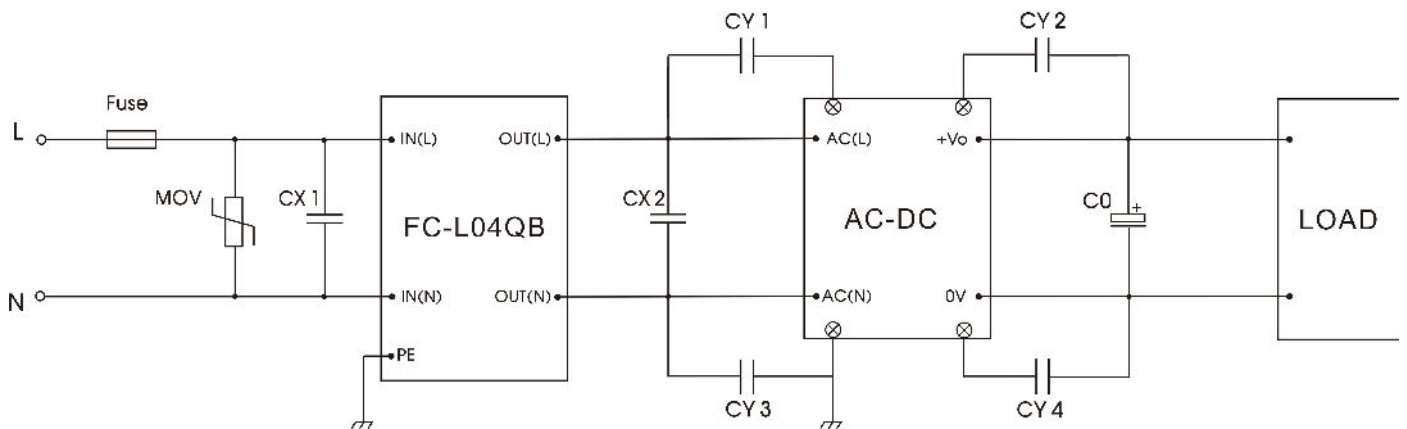
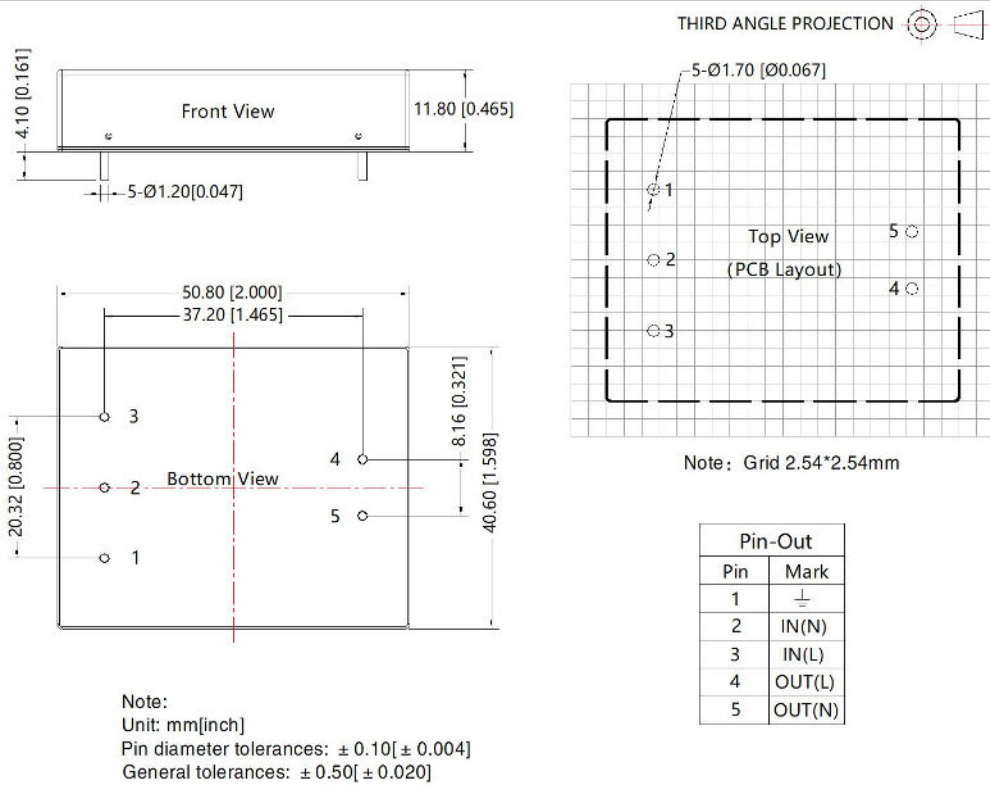


Fig.1

Components	Value	Recommended Component
AC-DC	AC converter module	All power modules that meet the input voltage and operating current range can be used
MOV	S14K350	Varistor
CX1、CX2	1uF/310VAC	X safety capacitor
CY1、CY2、CY3、CY4	1000pF/400VAC	Y safety capacitor
C0	C0 is the output filtering capacitor. It is recommended to use a high frequency and low resistance electrolytic capacitor or solid state capacitor. The voltage of the capacitor can be derated to at least 80%.For details, see the manual description of the AC brick power module.	
Fuse	Required.The Fuse must be selected in accordance with the specified input current of the corresponding power converter	

Dimensions and Recommended Layout



Note:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58200119
- Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta=25°C, humidity<75%RH with nominal input voltage and rated 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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