

EMC Filter



RoHS



FEATURES

- Ultra wide input voltage range: 0-305VAC / 0-430VDC
- Operating ambient temperature range: -40°C to +85°C
- EMC compliance : IEC/EN61000-4、CISPR32/EN55032
- High surge suppression capability: 2kV/4kV、4kV/6kV
- Insertion loss DM & CM up to 40dB@200KHz~10MHz

The model FC-L03Dx series developed for the first time belongs to the EMC auxiliary device supporting our LD series AC module power supply of 40W, 60W and 90W. The maximum input voltage of the AC power supply should not be greater than the maximum operating voltage of the auxiliary power supply, and the maximum input current should not be greater than the maximum operating current of the filter.

Selection Guide						
Model	Operating Voltage(VAC)		Operating Current(A)		Surge Performance	Certification
	Typ. (Range)	Max*	Typ.	Max		
FC-L03D	230 (0-305)	310	-	3.0	Line-Line ±2kV Line-PE ±4kV	CE/UKCA
FC-L03D2	230 (0-305)	310	-	3.0	Line-Line ±4kV Line-PE ±6kV	CE/UKCA

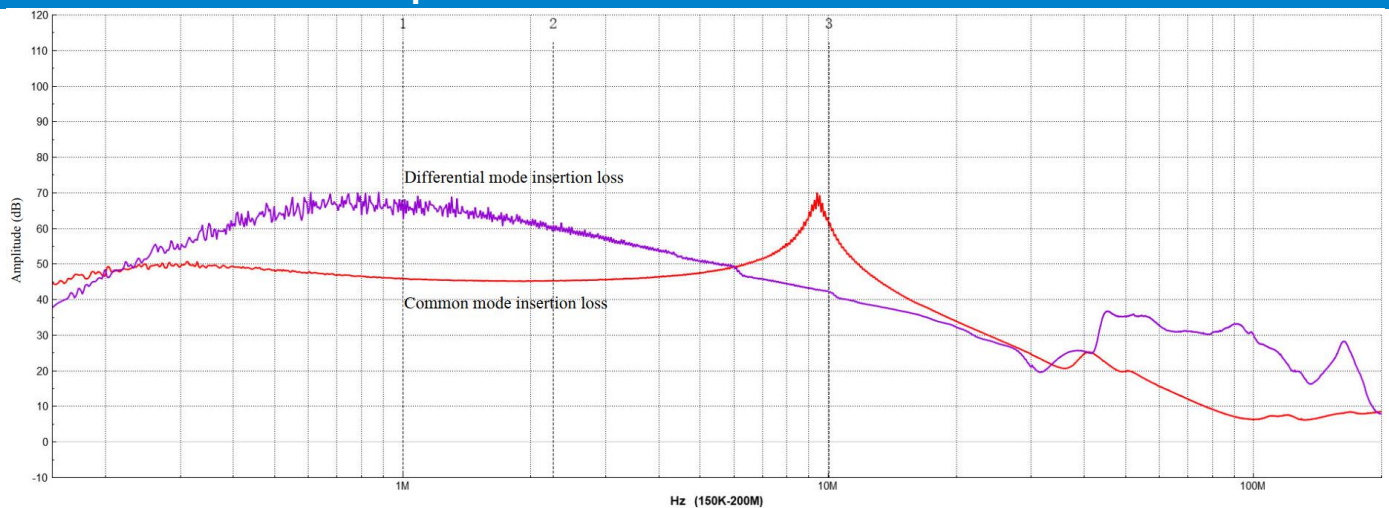
Note: * Input voltage should not exceed this value, otherwise permanent irreparable damage may be caused.

General Specifications					
Item	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	+85	°C
Storage Temperature		-40	--	+105	
Storage Humidity		--	--	95	%RH
Isolation Voltage	IN(L) ~ PE, IN(N) ~ PE, test time 1 minute, leakage current < 5mA	3000	--	--	VAC
		4200	--	--	VDC
Insertion Loss (CM/DM)	150KHz~1MHz	25	30	-	dB
	1MHz~10MHz	30	35	-	dB
	10MHz~30MHz	18	20	-	dB
Altitude	80-110kPa	≦ 5000m			
Impact and Vibration test		10-55Hz, 5G, 30 Min. along X, Y and Z			
MTBF		MIL-HDBK-217F@25°C ≥500,000h			

Physical Characteristics	
Case Material	Black plastic, flame-retardant and heat-resistant (UL94 V-0)

Dimension	FC-L03D	52.40 x 27.20 x 24.00 mm
	FC-L03D2	
Weight	FC-L03D	51g(Typ.)
	FC-L03D2	54g(Typ.)
Cooling Method	Free air convection	

FC-L03Dx Insertion Loss Specifications



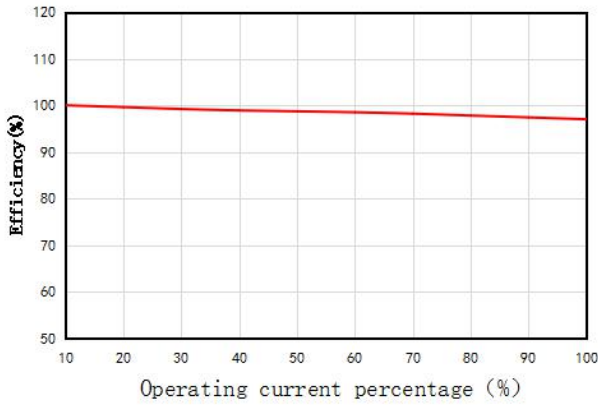
EMC Characteristics

EMI	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
EMS	ESD	IEC/EN61000-4-2	Contact ±6kV Air ±8kV	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±4kV	perf. Criteria A
	CS	IEC61000-4-6	10V r.m.s	perf. Criteria A
	PFMF	IEC61000-4-8	50/60Hz 30A/m	perf. Criteria A
	Surge	FC-L03D	IEC/EN61000-4-5	Line-Line ±2kV Line-PE ±4kV
FC-L03D2		Line-Line ±4kV Line-PE ±6kV		perf. Criteria B

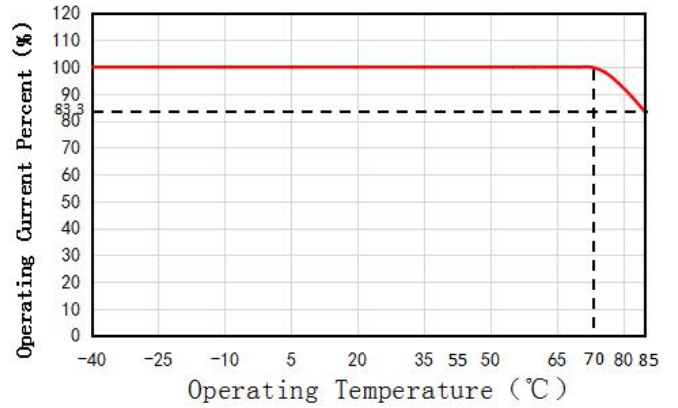
Note: * Matching FC-L03Dx to the front end of the LD40/60/90-23BxxR2 series power supply can make the power module meet above EMC characteristics.

Roduct Typical Curve

Efficiency VS Operating Current



Temperature Derating 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

Note: Matched the LD40/60/90-23BxxR2 series AC power module supply;

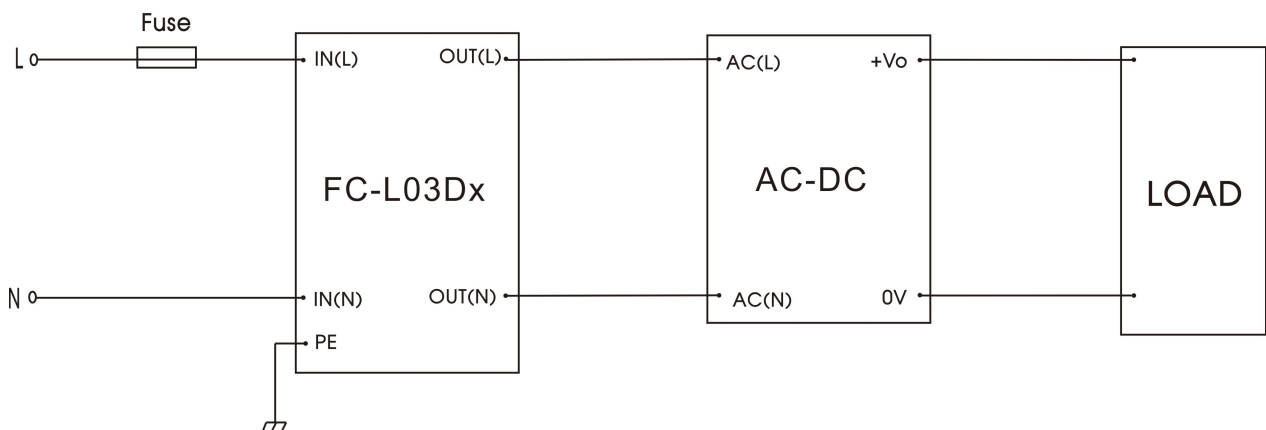
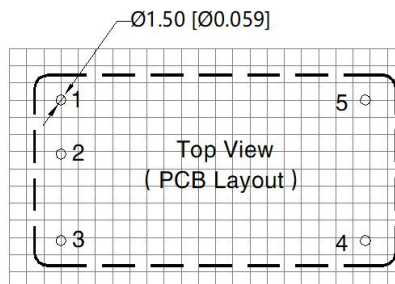
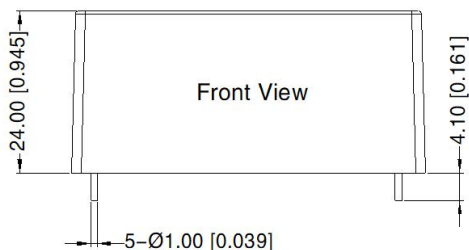


Fig.1

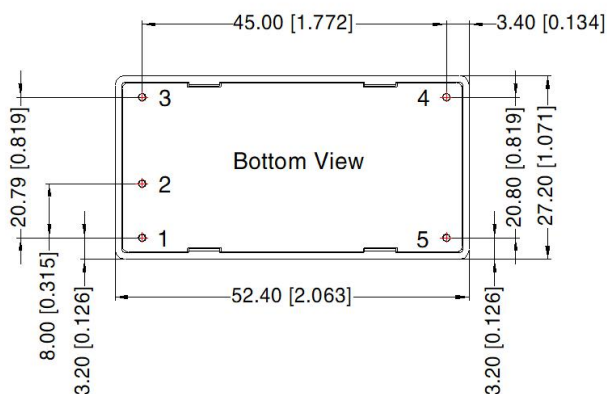
Components	Value	Recommended Component
Fuse	Required. The Fuse must be selected in accordance with the specified input current of the corresponding power converter.	


FC-L03Dx Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Note: Grid 2.54*2.54mm



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

Note:
 Unit: mm[inch]
 PIN1/2/3/4/5: ϕ 1.0mm
 Pin diameter tolerances: ± 0.10 [± 0.004]
 General tolerances: ± 0.50 [± 0.020]

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220011;
2. Unless otherwise specified, data in this datasheet should be tested under the conditions of $T_a=25^\circ\text{C}$, humidity<75%RH with nominal input voltage and rated load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. 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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