

EMC Filter



This product is suitable for analog circuits and other applications that require high volume of filter circuits. The EMC auxiliary module is installed on the front end of the DC/DC module, so that the power supply products can meet the EMC requirements in the EN55032 and EN50155, GJB151B standards. When used with the power module, the maximum input voltage of the power supply should not be greater than the maximum working voltage of the auxiliary device.

FEATURES

- Wide input voltage range: 9-80VDC
- Small volume: 50.80*25.40*11.80mm³
- Operating temperature range: -40°C to +100°C
- Compliance with EMC standards: IEC/EN61000-4 series and CISPR32/EN55032, EN50155, GJB151B

Selection Guide

Certification	Model	Operating Voltage(VDC)		Operating Current(A)		Surge Performance
		Typ. (Range)	Max*	Typ.	Max	
CE/UKCA	FC-B10D-R2	24/48 (9-80)	80	-	10	Line - Line ±2kV Line - PE ±2kV

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

General Specifications

Item		Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature			-40	--	+100	°C
Storage Temperature			-55	--	+125	
Pin resistant to welding temperature		The solder joint is 1.5mm away from the housing, 10 seconds	--	--	+300	
Storage Humidity		Non-condensing	5	--	95	%RH
Isolation Voltage	+Vin-PE	Electric strength test for 1min., leakage current <1mA	1500	--	--	VDC
	-Vin-PE					
surge voltage(1sec.max)		Three shocks			100	VDC
MTBF		MIL-HDBK-217F@25°C	1000	--	--	K hours
Shock and Vibration Test			IEC 61373 Car 1 B Class			
Altitude		86-106KPa	≤5000m			
Insertion loss (CM)	150KHz~1MHz		--	20	--	dB
	1MHz~10MHz		--	25	--	dB
	10MHz~30MHz		--	20	--	dB
Insertion loss (DM)	150KHz~1MHz		--	25	--	dB
	1MHz~10MHz		--	20	--	dB

	10MHz~30MHz	--	5	--	dB
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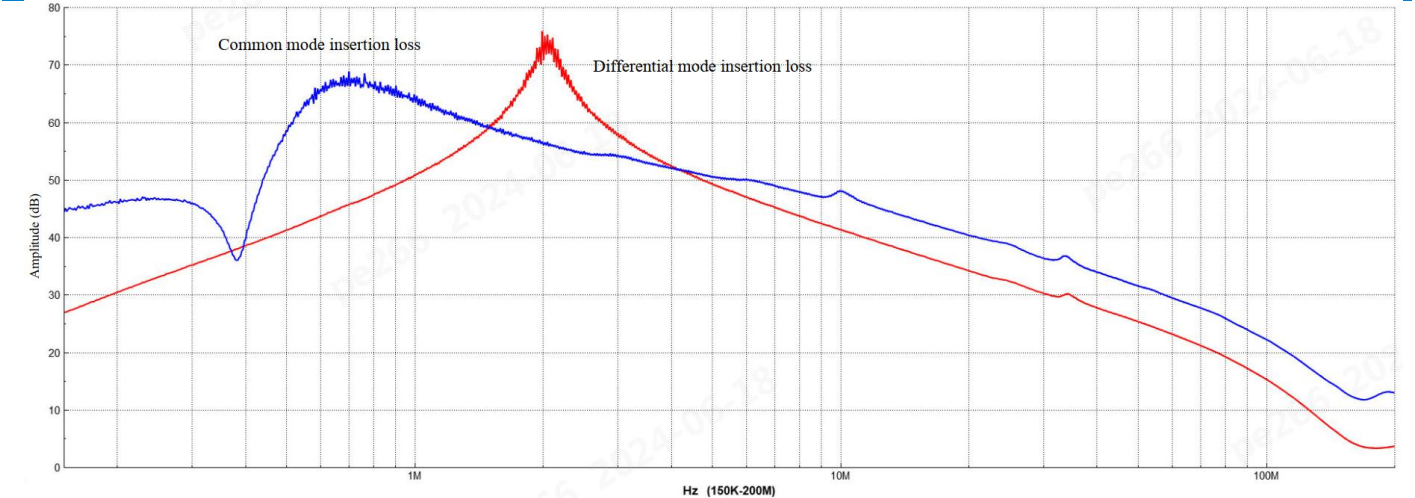
Note 1: * The product is used above the altitude of 2000m, to ensure that the surface temperature of the product is below 95℃

Note 2: The filter cannot use air switches and does not support hot swappable.

Physical Characteristics

Case Material	AL1070
Dimension	50.80 mm x 25.40mm x 11.80mm
Weight	26.0g(Typ.)
Cooling Method	Free air convection

Insertion Loss Specifications

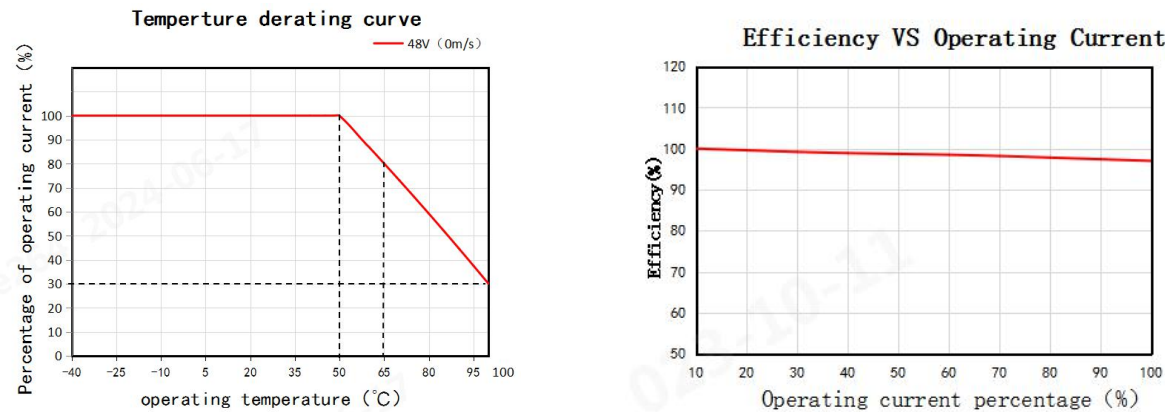


EMC Characteristics

EMI	CE	CISPR32/EN55032	Class B(Use with our module)	
		GJB151B	CE102(Use with our module)	
	RE	CISPR32/EN55032	Class B(Use with our module)	
EMS	ESD	IEC/EN61000-4-2	Contact ±6KV Air ±8KV	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV 100KHz	perf. Criteria A
	Surge	IEC/EN61000-4-5	Line - Line ±2kV Line - PE ±2kV	perf. Criteria B
	CS	IEC/EN61000-4-6	0.15MHz-80MHz 10V r.m.s	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A

Note: The above performance specifications are the results of VCF48_QBO-400WR3 and VCB48_EBO-300WFR3-N tests for DC/DC power supplies.

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

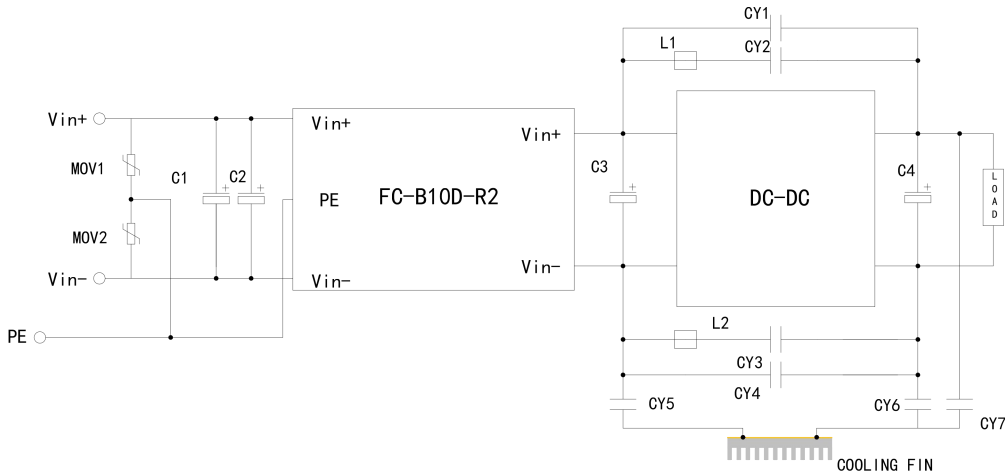


Fig.1

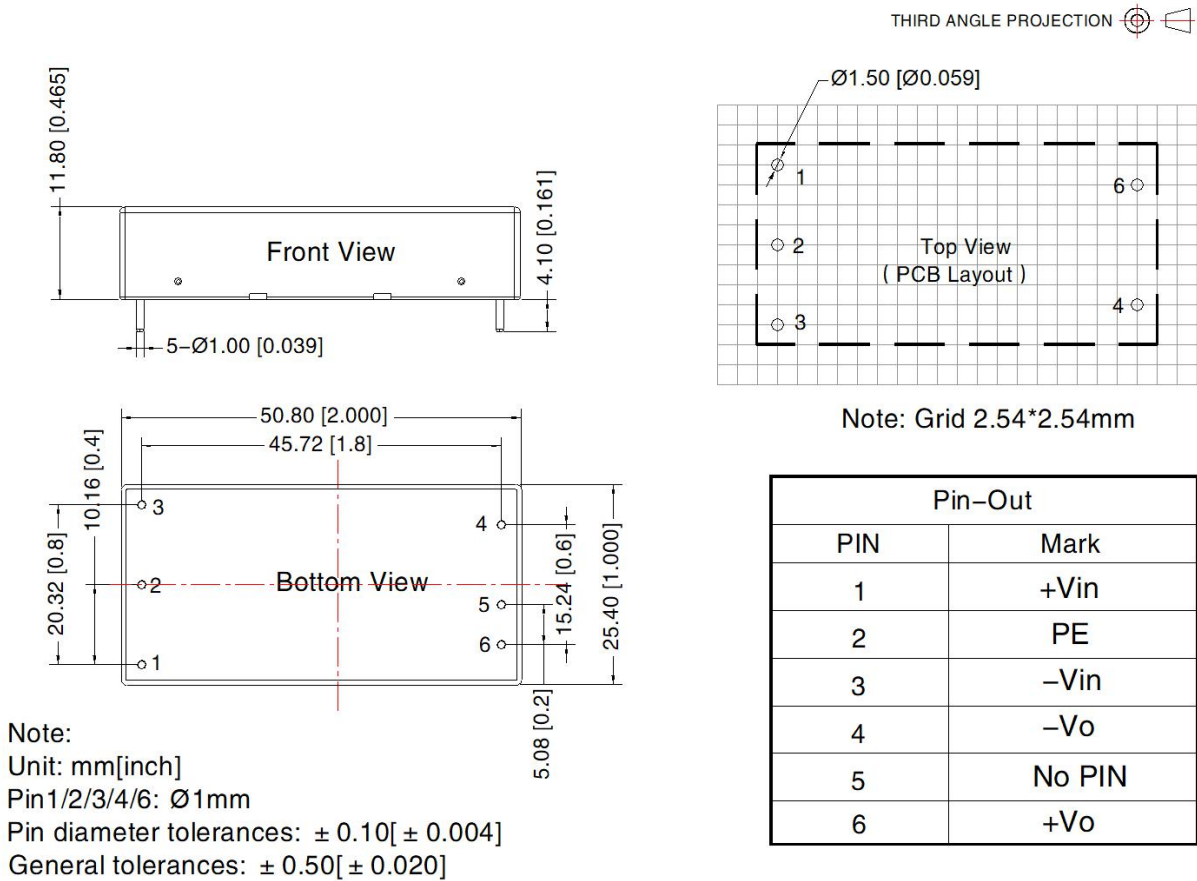
Table 1-①: Recommended device parameters for DC/DC power supplies VCF48_QBO-400WR3 and VCB48_EBO-300WFR3-N

Components	Value
MOV1、MOV2	560K/500A
C1、C2	680uF/100V
C3	330uF/110V
C4	100uF/50V
CY1、CY4	Y1/102M
CY2、CY3	Y1/332M
CY5、CY6、CY7	Y1/222M
L1、L2	T3.5*1.5*2.35HP

Note: 1. A layer of copper foil is affixed to the heat sink of DC-DC module, and CY5, CY6, and CY7 are connected to the copper foil

2. The filter cannot use air switch and does not support hot swap.

Dimensions and Recommended Layout



- Note:
1. For packaging information, please refer to "Product Shipping Packaging Information", package number: 58200035;
 2. Unless otherwise specified, all indicators in this manual are measured at Ta=25°C, humidity <75%RH, nominal input voltage and rated output load;
 3. All index test methods in this manual are based on the company's enterprise standards;
 4. We can provide product customization, specific needs can directly contact our technical personnel;
 5. Products related to laws and regulations: see "Product Characteristics", "EMC characteristics";
 6. Our products shall be classified and stored in accordance with ISO14001 and relevant environmental laws and regulations after scrapping, and handed over to qualified units.

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