

FMP Series 1A High-temperature EMI Output Filtering Module

Features:

- : High operating temperature (ambient temperature: $-55^{\circ}\text{C} \sim +175^{\circ}\text{C}$ and max. shell temperature: $+204^{\circ}\text{C}$)
- : Small size (L: 33.0×W: 22.0×H: 8.5MM.)
- : Normal working voltage: 0~50V, 0~100V, 0~250V
- : Sealed metal casting (impact and moist resistance and electromagnetic radiation protection)
- : Multi-filtering channel(up to three channels)
- : Each channel passes 1A current
- : Ripple attenuation up to 60DB at 500KHZ
- : Voltage drop at max. current less than 0.3V

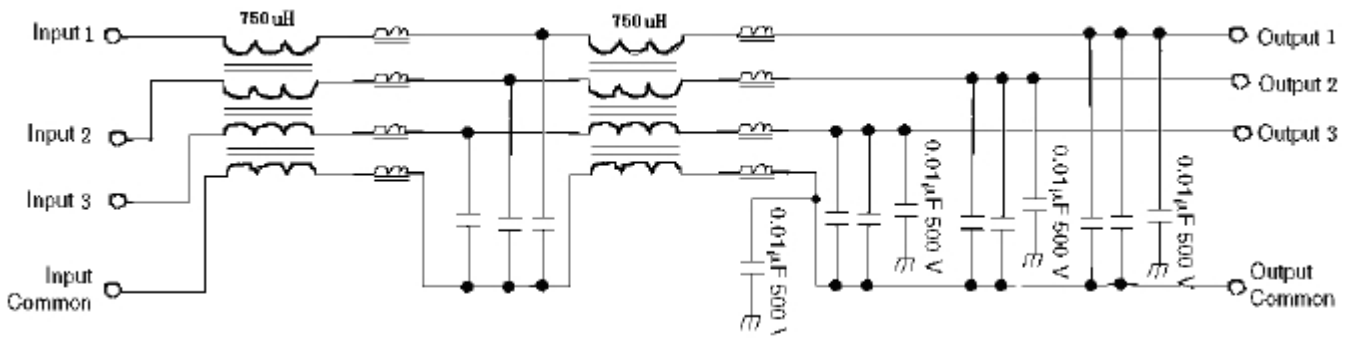


Description:

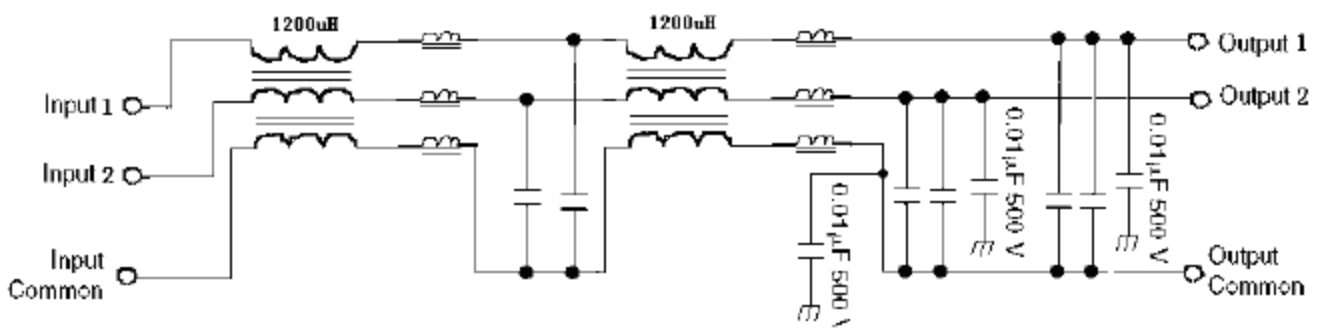
The FMP serial 1A high-temperature EMI output filtering module, designed for the power modules working in the harsh environment, can work for 2000 hours at shell temperature 150°C , 1000 hours at shell temperature 175°C and 48 hours at shell temperature 204°C . With features of being resistant to high temperature, impact and humidity, it is a power supply system especially applicable to petroleum survey logging tool, petroleum drilling instrument, geophysical detecting instrument, vehicles, telecommunication, network infrastructures, enterprise and high-performance calculation. It provides output voltage filtering of single-way, double-way, or three-way, and within the entire operating temperature range and under the condition change of full-load and no-load, the output voltage fluctuation is less than 0.3V. The ripple attenuation is up to 60DB at 500KHZ. If using our FHP5, FH5, FHP15, FH15, FHL30, FHL65, FHL100, FHT100 AC/DC and DC/DC modules, ripple will be attenuated to 2-10MV. If this still cannot meet the requirements of some precision equipment, it is necessary to add another filtering module, which generally will meet the requirements.

During the service of this module, it can connect the output of three-route sharing ground, two-route sharing ground or single-route. But the premise is that INPUT COMMON must connect output common ground of power. Terminals INPUT1, INPUT2 and INPUT3 are identical and can be connected to any output except for the ground. The idle terminals should be suspended. After wiring being completed, the current flowing into and out of four input terminals should be ensured to be equal. If not, the inductance in the filter may get saturation and out of work. If a +12V inputs INPUT1 0.2A, -12V inputs INPUT2 0.1A, and +5V inputs INPUT3 0.3A, the final result is that 0.2A flows into INPUT1, 0.1A flows out of INPUT2, and 0.3A flows into INPUT3. With INPUT COMMON integrating the ground of three powers, finally 0.4A flows out. Thus total 0.4A flows into and out of four input terminals. In actual use, it must be ensured that the current filtered by this product should flows back via it. The current that does not flow into or out of this product is prohibited.

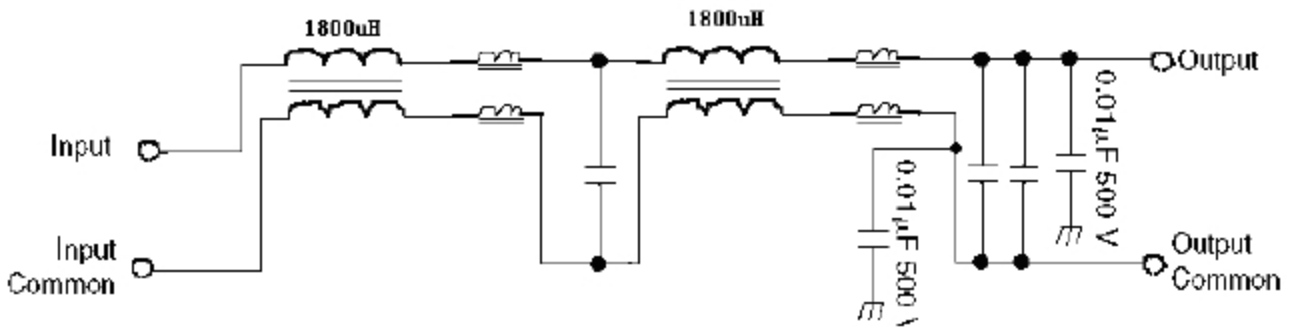
FMP components completely pass the in-factory test in strict accordance with the enterprise standards and GJB, which includes 24 ~ 72-hour live aging and screening under the temperature of $+175^{\circ}\text{C}$. All finished products have experienced 8-hour full-load operation under the temperature of $+175^{\circ}\text{C}$ before delivery so as to fully expose the damage to the components during the production process and hence ensure the reliability of products.



FMP3-01XXX Schematic diagram



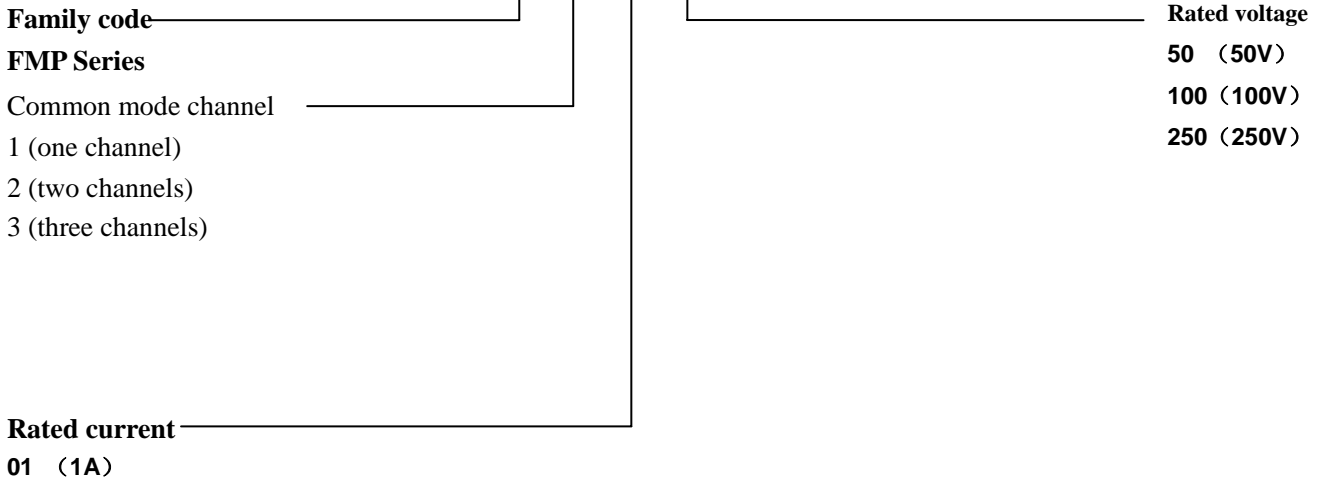
FMP2-01XXX Schematic diagram



FMP1-01XXX Schematic diagram

Type selection:

FMP3---0150



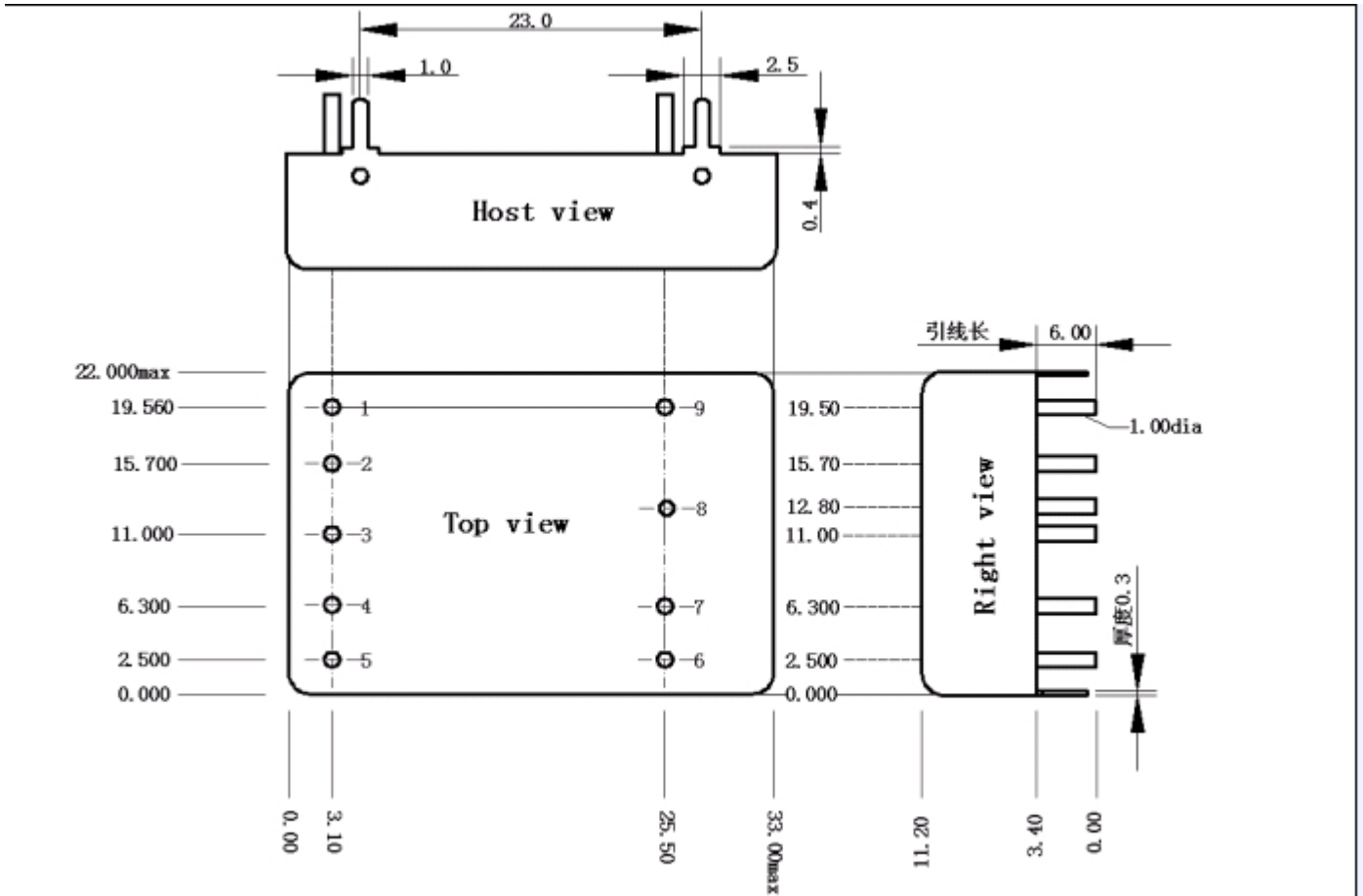
Technical parameters:

- (1) Operating temperature: -55℃~+175℃ Maximum shell temperature: +204℃
- (2) Input voltage: 0~50V, 0~100V, 0~250V
- (3) DC current: less than 0.3Ω
- (4) Inserting attenuation: up to 60DB at 500KHZ
- (5) Shock resistance: 25G, 0 ~ 300Hz
- (6) Mechanical dimension: A: (L: 33.0MM×W: 22.0MM×H:8.5MM)

Service Requirements:

The shell of module is in suspended and it can be connected to the ground for use. This filtering module should be connected to its input DC/DC or AC/DC nearby, which makes it possible to reduce the antenna effect as a result of over long input line and radiation for no filtering input line. To our FH series AC/DC, DC/DC modules and achieve a better filtering effect, the shell of AC/DC and DC/DC modules should not be connected to the ground and input/output ground wire, instead it should be suspended.

Outline diagram:



Pin No.	Output definition of FMP3	Output definition of FMP2	Output definition of FMP1
1	INPUT1	INPUT1	INPUT
2	INPUT COMMON	INPUT COMMON	INPUT COMMON
3	GND	GND	GND
4	INPUT2	NC	NC
5	INPUT3	INPUT2	NC
6	OUTPUT3	OUTPUT2	NC
7	OUTPUT2	NC	NC
8	OUTPUT COMMON	OUTPUT COMMON	OUTPUT COMMON
9	OUTPUT1	OUTPUT1	OUTPUT

(Product performance, reliability and information are subject to change without prior notice)

Jan 8. 2014