

-100V ~ +100V input, 15A output, 1/4 brick filtering module

Product Overview and Applications:

The QFL series filtering module is specially designed to reduce the noise conduction of DC-DC converters on power lines. It is packaged in a standard 1/4 brick and has undergone comprehensive compatibility testing. When used in conjunction with our DC-DC module, it can meet the requirements of CE102 in GJB151B-2013 and improve the electromagnetic compatibility of the system. The internal circuit inherits our company's mature military power module design, adopts high-density PCB assembly technology, and is sealed with high-performance thermal conductive adhesive. The environmental performance meets the relevant requirements of GJB 150A-2009, and can meet the high requirements for size, weight, power density, environment, etc. It is widely used in various demanding electronic systems such as aviation, airborne, missile borne, vehicle mounted, ground equipment, radar, weapons, communication, control, etc.

Performance:

- ◆ High reliability
- ◆ Input voltage range -100V~+100V
- ◆ Rated current 15A
- ◆ Standard 1/4 brick packaging
- ◆ The working temperature range: -55°C~100°C
- ◆ Used with our DC-DC module, it can meet the requirements of CE102 in GJB151B-2013

Flange
encapsulated



Encapsulated



Ordering Information

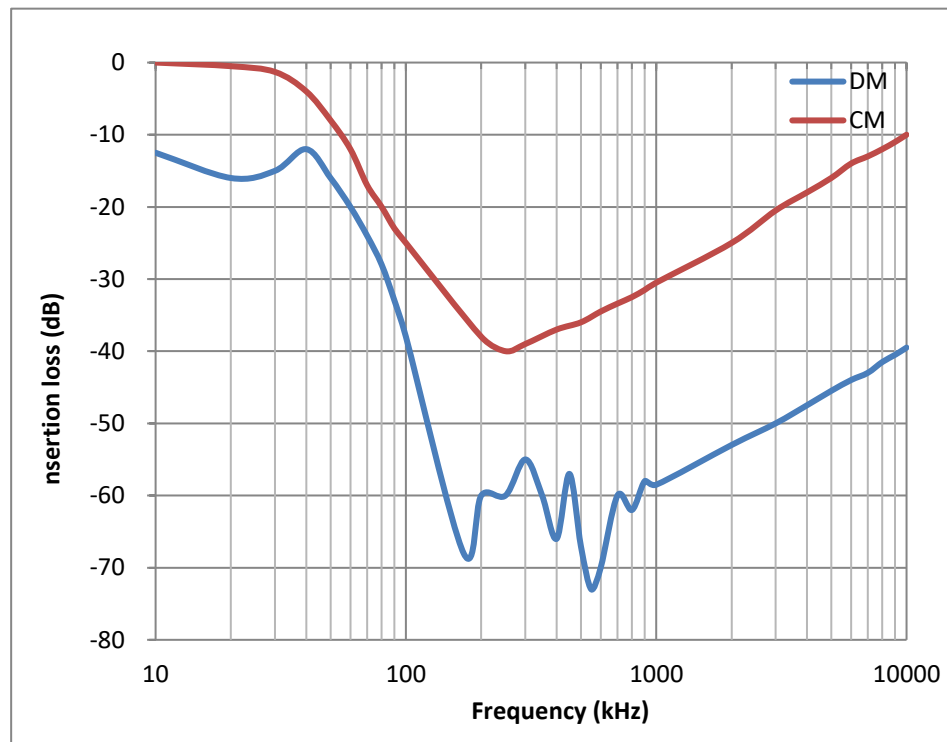
QFL	X	X	XXX	X	X
Series Name	Input voltage Range	Temperature Grade	Rated output Current	Package Options	Special modification
	C: -100V~+100V _{DC}	C: -40°C-85°C H: -40°C-100°C M: -55°C-100°C	(unit: 1A) 015=15A	2: encapsulated 3: Flange encapsulated	

Electrical characteristics

Typical conditions: TA=25°C, Vin=+48V_{DC}

Parameter	Min.	Typical	Max.	Unit	Notes
Input voltage	-100	48	100	V	Continuous
Output voltage	-100	48	100	V	Continuous
Rated current			15	A	Continuous
DC resistance			30	mΩ	
withstanding voltage					
Pin1, 5 to Pin 2, 3			250	V _{DC}	5s
Pin1, 2, 3, 5 to Pin 4, Case			1000	V _{DC}	5s
Isolation Resistance					
Pin1, 2, 3, 5 to Pin 4, Case	100			MΩ	1000V _{DC} , 5s
Power dissipation			7	W	@15A
Operation Temperature					
C grade	-40		85	°C	Shell temperature
H grade	-40		100	°C	Shell temperature
M grade	-55		100	°C	Shell temperature
Storage Temperature	-55		125	°C	
Calculated MTBF		2		10 ⁶ hrs.	Baseplate temperature 40°C
Weight					
Encapsulated		100		g	Tolerance ±10g
Flange Encapsulated		105		g	Tolerance ±10g

Typical value of insertion loss (50Ω system)



Installation and welding notes

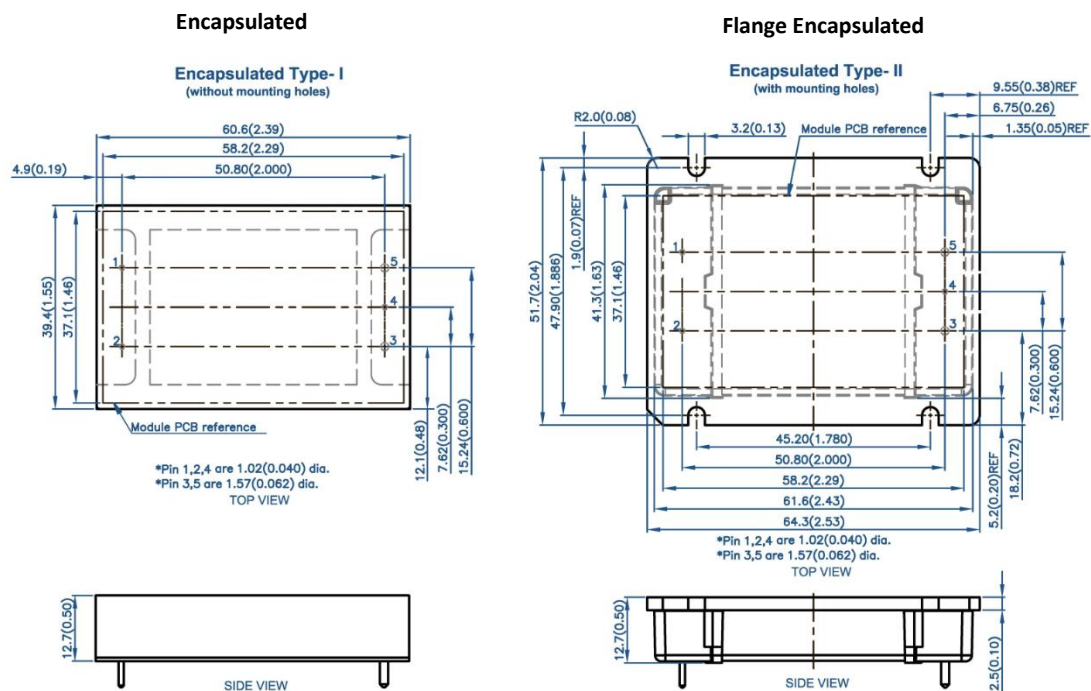
Module Installation

1. Install the filtering module as close as possible to the DC-DC module;
2. The input and output of the filtering module need to be wired separately, and parallel wiring or bundling of input and output lines is not allowed to avoid noise coupling;
3. The wiring between the filtering module and the DC-DC module should be as thick and short as possible, and the wiring circuit area should be reduced;
4. The filtering module needs to be well grounded.

Module welding

The module meets the standard wave soldering technology. When wave soldering, the pins of the module must be preheated at 110°C for 20-30 seconds, and wave soldering at 235°C for less than 10 seconds. When manually soldering, the temperature of the soldering iron should be set at 425°C, and it is necessary to ensure that the direct contact time with the pins does not exceed 3 seconds. Long term high-temperature welding can cause damage to the interior of the module. The module solder joints can be cleaned using IPA or appropriate solvents.

Mechanical dimension



Pin	Name	Function
1	Vin(+)	Positive input voltage
2	Vin(-)	Negative input voltage
3	Vo(-)	Negative output voltage
4	GND	Ground
5	Vo(+)	Positive output voltage

Mechanical tolerance: x.x ±0.5mm, x.xx ±0.25mm
PIN Length: 4.572 ±0.5mm