

PFT0H010xx 10A/80V Filter Module



Features

- 80V maximum input voltage
- Compatible to most industry standard DC-DC converters
- Industry standard package
- Wide operating temperature range: -40°C to +100°C

Product Description

The PFT EMI filters attenuate both differential-mode and common-mode conducted noise generated by DC-DC converters. These multi-stage filters are optimized to provide high insertion loss over the entire frequency range regulated by FCC and CISPR for conducted emissions. These EMI filter modules support up to 80V operating voltages.

The PFT series EMI filter modules are designed for low to median power applications.

Part Numbering System

PFT	0H	010	□	□
Series Name:	Voltage Rating:	Current Rating:	Pin Length Options:	Mechanical Options:
PFT	0H : 80V	010: 10A	Open frame: J: 0.240" Metal case: J: 0.180"	5: open-frame 8: metal case

Absolute Maximum Rating

Excessive stresses over these absolute maximum ratings can cause permanent damage to the filter module. Operation should be limited to the conditions outlined under the Electrical Specification Section.

Parameter	Symbol	Min	Max	Unit
Operating Voltage (continuous)	V _{op}	-	80	V _{dc}
Operating Voltage (< 100ms, operating)	V _{op,trans}	-	100	V _{dc}
Isolation voltage from I/O to Ground	-	-	2,250	V _{dc}
Operating Ambient Temperature	T _o	-40	100	°C
Storage Temperature	T _{stg}	-55	125	°C

Electrical Specifications

These specifications are valid over the full range of input voltage, resistive load, and operating temperature unless noted otherwise.

Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Operating Voltage	V _{op}	0	24/48	80	V _{dc}
Operating Current (RMS)	I _{op, Max}	-	-	10	A
Resistance per leg	R	-	-	16.3	mΩ

Note: The filter module is not internally fused. An input line fuse must always be used.

Attenuation Specifications

Parameter		Min	Typical	Max	Unit
Common-mode 50Ω Circuit	500kHz	15	25	-	dB
	2MHz	53	62	-	dB
	30MHz	52	65	-	dB
Differential-mode 50Ω Circuit	500kHz	55	62	-	dB
	1MHz	61	69	-	dB
	30MHz	48	56	-	dB

General Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Calculated MTBF (Telecordia SR-332, 2011, Issue 3), full load, 40°C, 60% upper confidence level, typical Vin	-	-	87	-	10 ⁶ -hour

* Unless otherwise specified, parameters in this datasheet were measured under the conditions of T_a=25°C

Internal Schematic

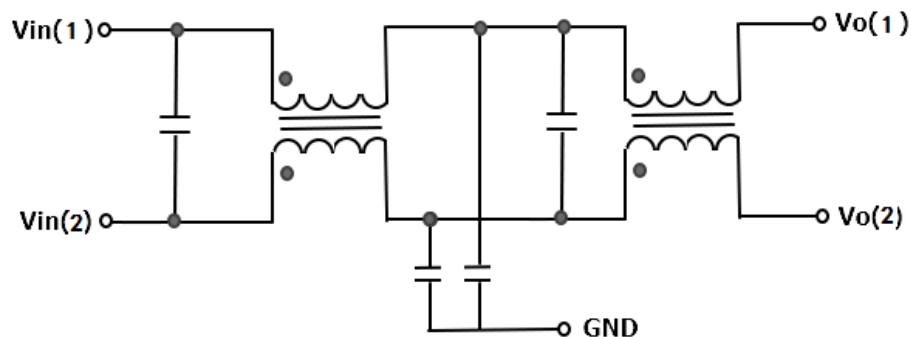


Figure 1. Internal Schematic

Characteristic Curves

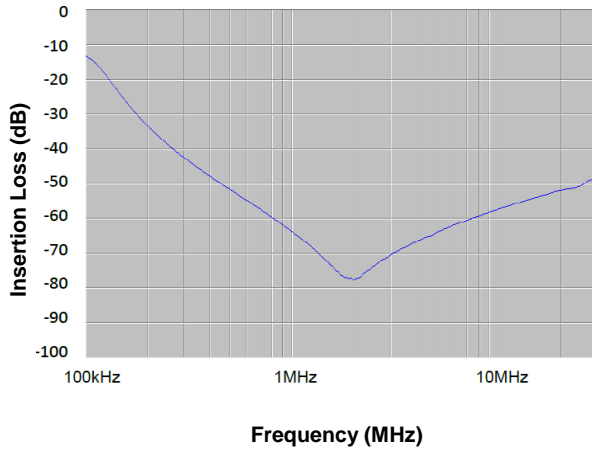


Figure 2. Differential-mode Insertion Loss in a 50Ω circuit

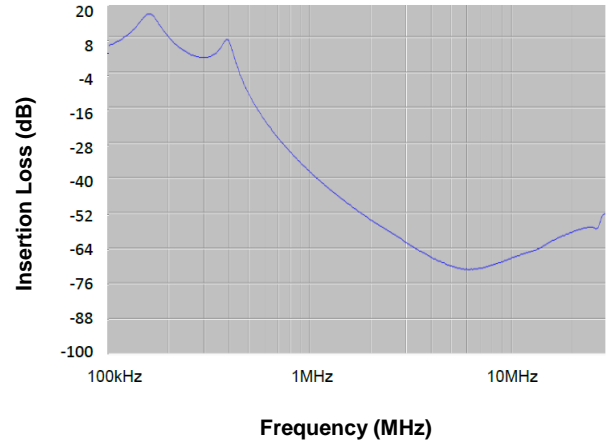


Figure 3. Common-mode Insertion Loss in a 50Ω circuit

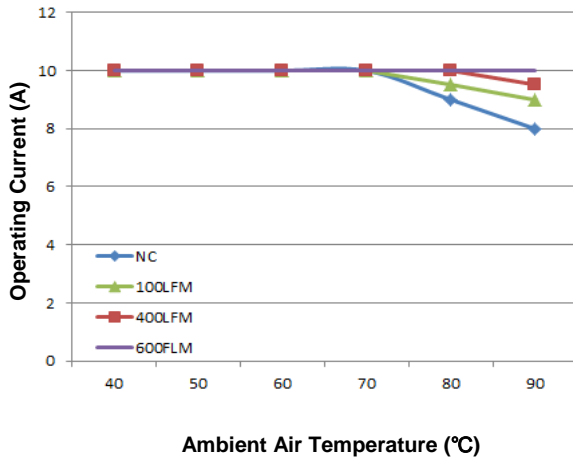


Figure 4. Thermal Derating Curve
(Case temperature must be kept below 100°C)

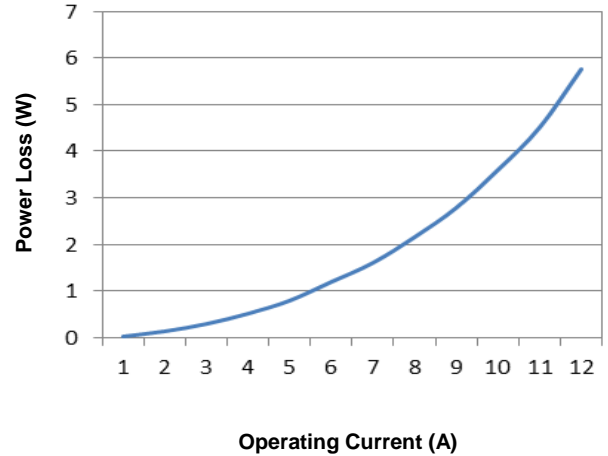
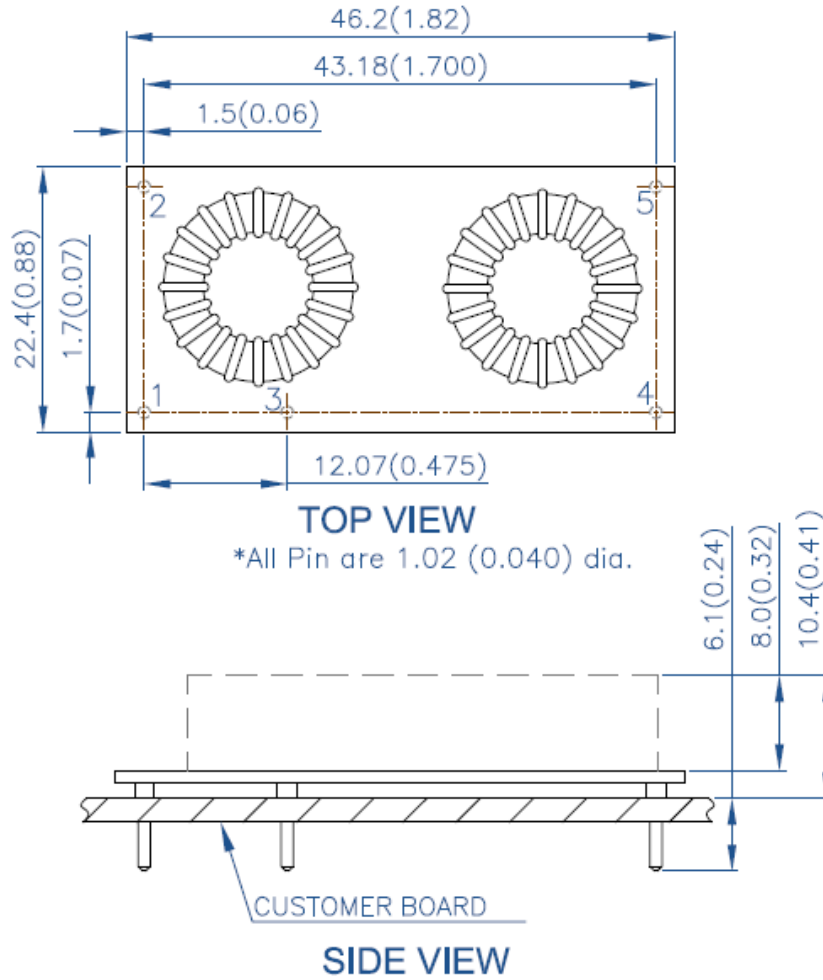


Figure 5. Power Loss vs. Operating Current



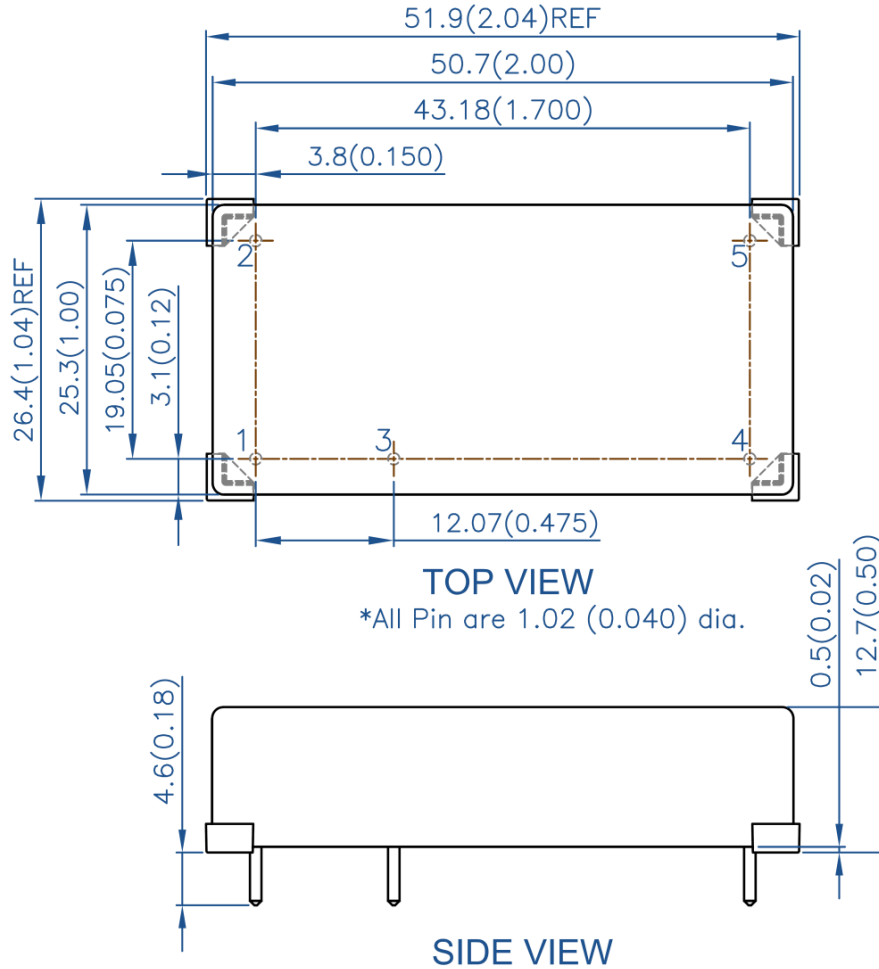
Mechanical Information

Open Frame Module





Metal Case Module



Pin	Name	Function
1	Vin 1	Input voltage
2	Vin 2	Input voltage
3	GND	Power ground
4	Vout 1	Output voltage
5	Vout 2	Output voltage

Notes:

- 1) All dimensions in mm (inches)
Tolerances: .x ± .5 (.xx ± 0.02)
.xx + .25 (.xxx ± 0.010)
- 2) All pins are 1.02mm (0.040") dia. with +/- 0.10mm (0.004") tolerance; the standoff shoulders are 1.65mm (0.065") dia. with +/- 0.15mm (0.006") tolerance.
- 3) Gold or Matte Tin finish with Nickel under plating.
- 4) Weight: 20g open frame module
49g metal case module
- 5) Workmanship meets or exceeds IPC-A-610 Class II.