查询FME28-461W供应商

捷多邦,专业PCB打样工厂,24小时加急出货

FEATURES

- –55°C to +125°C operation
- Up to 60 dB attenuation
- at 500 kHz.
- Compliant to MIL-STD-461C, CE03
- Compatible with MIL-STD-704E DC power bus

EMI INPUT FILTERS 28 & 270 VOLT INPUT

FME28-461 EMI FILTER MODULE INTER MODULE INTER DOINT INTER DO SN SN SN SN SC MORE IN USA REDWORD VA CARE SAB2I

FMD/FME EMI FILTER 0.7 TO 15 AMP

MODELS					
INPUT VOLTAGE					
AND CURRENT					
Input (V)	Current (A)				
28	7.0				
28	15.0				
270	0.7				
270	1.5				

Size (max.): Case U2, FME all models; Case U1, FMD28-461SL and FMD270-461SL 3.005 x 1.505 x 0.400 inches (76.33 x 38.23 x 11.16 mm) [FME models, shown in Case U2 (flanged, short leads). Also available: Flanged – leads bent down (case V); Tabbed – leads bent up (case W), short leads (case Y), and leads bent down (case Z).See Section B8, cases U2, V, W, Y, and Z for dimensions and options.]
Case J4, FMD28-461
2.720 x 1.350 x 0.505 inches (69.09 x 34.29 x 12.83 mm) See Section B8, cases J4, U1, U2, V, W, Y, and Z for dimensions.
Weight: 77 grams typical cases U1, U2, V, W, Y, and Z for dimensions.
Standard, ES, or 883 (Class H). See Section A5 for ordering information.

-

DESCRIPTION

The FMD Series[™] and FME Series[™] EMI filters are specifically designed to reduce the reflected input ripple current of Interpoint's high frequency DC/DC converters. FMD/FME filters minimize electromagnetic interference (EMI) for the MHE, MHL, MLP, MRH, MTO, MHF, MHF+, MHV, MHD, MTR, MFL, MHP, and MFLHP Series. These filters are intended for use in 28 or 270 volt applications which must meet MIL-STD-461C, CE03 levels of conducted emissions. One filter can be used with multiple converters up to the rated output current of the filter.

INPUT RIPPLE AND EMI

Switching DC/DC converters naturally generate two noise components on the power input line: differential noise and common mode noise. Input ripple current refers to both of these components. Differential noise occurs between the positive input and input common. Most Interpoint converters have an input filter that reduces differential noise which is sufficient for many applications. Common mode noise occurs across stray capacitances between the converter's power train components and the baseplate (bottom of the package) of the converter.

Where low noise currents are required to meet CE03 of MIL-STD-461, a power line filter is needed. The FMD/FME Series of EMI power line filters reduces the common mode and differential noise generated by the converters. FMD/FME-461 filters reduce input ripple current by as much as 60 dB at 500 kHz and 55 dB at 1 MHz when used in conjunction with Interpoint's DC/DC converters. See Figures 8 and 9.

Place the filter as close as possible to the converter for optimum performance. The baseplates of the filter and the converter should be connected with the shortest and widest possible conductors. For the





best connection, mount the filter's and converter's baseplates on or above a small ground plane. See Figure 5.

TRANSIENTS

The transients listed below will not damage the filter but will be passed on to the converter:

- All filters: ±600 volts (50 ohm source
- impedance) for up to 10 µs.
- 28 volt filter: ±100 volts (0.5 ohm source impedance) for up to 100 ms.
- 270 volt filter: ±500 volts (independent of source impedance) for up to 100 ms.

OPERATION OVER TEMPERATURE

All FMD/FME-461 Series filters are rated for full power operation from –55°C to +125°C case temperature. Current is derated linearly to zero at +135°C case temperature.

INSERTION LOSS

The maximum dc insertion loss at full load and nominal input voltage represents a power loss of less than 4%.

PACKAGING

FMD/FME-461 filters are sealed in metal hermetic side-leaded packages. See Section B8, cases U1, U2, V, W, Y, and Z. Additionally the FMD28-461 filter is available in a metal hermetic down-leaded package (see Section B8, case J4).

LAYOUT REQUIREMENTS

The case of the filter must be connected to the case of the converter through a low impedance connection to minimize EMI.

B3-7



EMI INPUT FILTERS FMD/FME EMI FILTER 0.7 TO 15 AMP

ABSOLUTE MAXIMUM RATINGS

Input Voltage • 0 to 40 VDC continuous for 28 V models • 0 to 400 VDC continuous for 270 V models

Lead Soldering Temperature (10 sec per lead) • 300°C

Storage Temperature Range (Case)

–65°C to +150°C

Isolation

• 100 megohm minimum at 500 V, any pin to case (except FMD downleaded case case pin)

RECOMMENDED OPERATING CONDITIONS

Input Voltage Range

- 0 to 40 VDC continuous for 28 V models
 0 TO 400 VDC continuous for 270 V models
- Case Operating Temperature (Tc)
- -55°C to +125°C full power
 -55°C to +135°C absolute
- **Derating Input/Output Current** Linearly from 100% at 125°C to 0% at 135° C

Electrical Characteristics: 25°C Tc, nominal Vin, unless otherwise specified.

		1	FMD28-4	61	F	MD270-4	61	FME28-461		FME270-461				
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	UNITS
INPUT VOLTAGE	CONTINUOUS	0	28	40	0	270	400	0	28	40	0	270	400	VDC
	TRANSIENT 100 ms ¹	-100	_	100	-500	_	500	-100	_	100	-500	_	500	V
NOISE	500 kHz	50	60	—	50	60	—	30	40	_	40	50	—	dB
REJECTION	1 MHz	45	55	—	45	55	—	40	50	—	45	55	_	
DC RESISTANCE	MAX. CURRENT													
(R _{DC})	Tc=25°C	_	_	0.12	-	—	5.0	-	_	0.07	-	—	2.0	0
	Tc=125°C	_	_	0.15	-	_	6.3	-	_	0.07	_	_	3.2	52
CAPACITANCE	ANY PIN TO CASE	—	20,000	—	-	30,000	—	-	60,000	—	-	60,000	—	pF
OUTPUT VOLTAGE	STEADY STATE	$V_{OUT} = V_{IN} - I_{IN}(R_{DC})$ VD							VDC					
OUTPUT CURRENT	STEADY STATE		_	7	-	_	0.7	_	_	15	-	_	1.5	А
POWER	MAX. CURRENT													
DISSIPATION	Tc=25°C	_	_	6.0	-	_	2.5	-	_	15.75	-	_	4.5	14/
	Tc=125°C	—	_	7.4	-	-	3.1	-	_	15.75	-	_	7.2	vv

Note

1. 28 V models = 0.5Ω source impedance, 270 V models = independent of source impedance.









FMD/FME EMI FILTER EMI INPUT FILTERS 0.7 TO 15 AMP







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EMI INPUT FILTERS FMD/FME EMI FILTER 0.7 TO 15 AMP

PIN OUT SIDE-LEADED MODELS





DSCC NUMBERS						
DSCC DRAWING (5915)	FME SERIES SIMILAR PART					
95004-01HXC	FME28-461/883					
95004-01HTC	FME28-461W/883					
95004-01HUC	FME28-461V/883					
95004-01HYC	FME28-461Y/883					
95004-01HZC	FME28-461Z/883					
95009-01HXC	FME270-461/883					
IN PROCESS	FME270-461W/883					
IN PROCESS	FME270-461V/883					
IN PROCESS	FME270-461Y/883					
IN PROCESS	FME270-461Z/883					
	1 1112210 1012000					

For exact specifications for a DSCC product, refer to the DSCC drawing. Contact your Interpoint representative for status on the FME DSCC releases. See Section A3, "SMD/DSCC Lists", for more information.





FMD/FME EMI FILTER EMI INPUT FILTERS 0.7 TO 15 AMP

80 70 ^HB^H 50 EMISSION LEVEL 40 30 20 10 0 015 FREQUENCY (MHz) Three paralleled and synchronized MFL2815D converters without filtering. FIGURE 8 1.0 0.2 0.1 100 0. .0 10 FREQUENCY (kHz) DC BIAS: 1 AMP FME28-461 OUTPUT IMPEDANCE

FIGURE 10

Typical Performance Curves: 25°C Tc , nominal Vin, unless otherwise specified.

 $f_{\text{Figure 9}}^{0}$



FIGURE 11

22021-001-DTS Rev B (CaseJ4) DQ# 4002 All technical information is believed to be accurate, but no responsibility is assumed for errors or omissions. Interpoint reserves the right to make changes in products or specifications without notice. FMD Series and FME Series are trademarks of Interpoint. Copyright © 1992 - 1999 Interpoint. All rights reserved.



CASE U





CASE U





CASE V











CASE Y





CASE Z





CASE U







Note: Although every effort has been made to render the case drawings at actual size, variations in the printing process may cause some distortion. Please refer to the numerical dimensions for accuracy.



interpoint

CASE J



QA SCREENING 125°C PRODUCTS

125°C PRODUCTS

TEST (125°C Products)	STANDARD	/ES	/883 (Class H)*
PRE-CAP INSPECTION			
Method 2017, 2032	yes	yes	yes
TEMPERATURE CYCLE (10 times)			
Method 1010, Cond. C65°C to 150°C	no	no	ves
Method 1010, Cond. B, -55°C to 125°C	no	yes	no
CONSTANT ACCELERATION			
Method 2001 3000 g	no	no	Ves
Method 2001, 500 g	no	ves	no
		,	
BURN-IN			
Method 1015, 160 hours at 125°C	no	no	yes
96 hours at 125°C case (typical)	no	yes	no
FINAL ELECTRICAL TEST MIL-PRE-38534 Group A			
Subgroups 1 through 6° -55°C +25°C +125°C	no	no	VAS
Subgroups 1 and 4: +25°C case	ves	ves	no
	,	,	
HERMETICITY TESTING			
Fine Leak, Method 1014, Cond. A	no	yes	yes
Gross Leak, Method 1014, Cond. C	no	yes	yes
Gross Leak, Dip (1 x 10 ⁻³)	yes	no	no
FINAL VISUAL INSPECTION			
Method 2009	yes	yes	yes

Test methods are referenced to MIL-STD-883 as determined by MIL-PRF-38534.

*883 products are built with element evaluated components and are 100% tested and guaranteed over the full military temperature range of –55°C to +125°C.

Applies to the following products

MOR Series	Ν
MFLHP Series	Ν
MFL Series	Ν
MHP Series	Ν
MTR Series	Ν
MQO Series**	Ν

MHD Series MHV Series MHF+ Series MHF Series** MGA Series MSA Series

MGH Series MCH Series FM-704A EMI Filter FMD**/FME EMI Filter FMC EMI Filter FMH EMI Filter FMGA EMI Filter FMSA EMI Filter HUM Modules** LCM Modules** LIM Modules

**MFLHP Series, MQO Series, MHF Series, FMD EMI Filters, Hum Modules, and LCM Modules do not offer '883" screening.



C2-10