PRELIMINARY

Data Sheet

FIAM™

Filter Input Attenuator Module



Shown actual size:
2.28 x 2.2 x 0.5 in
57,9 x 55,9 x 12,7 mm

Features

- EMI filtering-Class B
- Transient protection
- Low profile mounting options
- 10 and 20 Ampere versions
- UL, CSA, EN compliance
- Mini-size package
- Inrush current limiting

Product Highlights

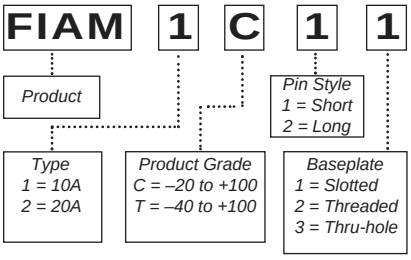
The FIAM is a DC front-end module providing transient protection, inrush current limiting and Class B EMI filtering in a Mini-size package. The FIAM enables designers using Vicor 2nd Generation, 48Vin DC-DC converters to meet the transient immunity and EMI requirements of Bellcore, FCC, ETSI and European Norms while protecting system hardware from inrush current. The FIAM accepts an input voltage of 36-76Vdc, is available in 10 or 20A versions and provides reverse polarity protection and remote on/off.

FIAM is housed in an industry standard "half brick" module measuring 2.28" x 2.2" x 0.5" and depending upon model selected, may be mounted on-board or in-board for height critical applications.

Compatible Products

- 2nd Generation 48V Input DC-DC converters

Part Number Format



Thermal Resistance

Parameter	Typ
Baseplate to sink; flat, greased surface	0.16°C/Watt
Baseplate to sink; thermal pad (P/N 20264)	0.1°C/Watt
Baseplate to ambient	7.9°C/Watt
Baseplate to sink; 1000 LFM	2.2°C/Watt

Absolute Maximum Rating

Parameter	Rating	Unit	Notes
+In to –In	80	Vdc	Continuous
+In to –In	100	V	100ms
+Out to –Out	75	Vdc	Continuous
Mounting torque	5(0.57)	in-lbs	6 each, #4-40 or M3
Pin Soldering temperature	500 (260)	°F(°C)	<5 sec; wave solder
Pin Soldering temperature	750 (390)	°F(°C)	<7 sec; hand solder
Storage temperature C–, T–Grade	-40 to +125	°C	
Operating temperature C–Grade	-20 to +100	°C	Baseplate
Operating temperature T–Grade	-40 to +100	°C	Baseplate

Specifications

(typical at TBP = 25C, nominal line, 75% load, unless otherwise specified)

Parameter	Min	Typ	Max	Remarks
Input voltage	36Vdc	48Vdc	76Vdc	Continuous
Output current				
FIAM1xxx			10A	
FIAM2xxx			20A	
Inrush limiting			.014A/µF	
Transient immunity				1µsec duration
Bellcore TR-NWT-000499			200V	5.0µsec rise time, 50µsec duration surge
ETS 300 386-1 Class 2			200V	1-100nsec burst
			250V	
EMI				When used with Vicor 2nd Generation
Bellcore GR-001089-Core		Issue 2		48Vin DC-DC converters
EN 55022		Level B		
FCC Part 15		Level B		
Dielectric withstand		1,500Vrms		Input/Output to Base
		2,121Vdc		Input/Output to Base
Efficiency	96	97.5		Internal voltage drop is 1.4 max. @ 20A, 100°C baseplate
Reverse polarity protection				No damage to module, external fuse required
ON/OFF control				
Enable (ON)	0.0Vdc		1.0Vdc	Referenced to –Vout.
Disable (OFF)	3.5Vdc		5.0Vdc	100kΩ internal pull-up resistor
External capacitance				See illustration on page 2.
FIAM1xxx	10µF		150µF	100V
FIAM2xxx	100µF		330µF	100V
Safety approvals	UL 1950, CSA 22.2-950, EN 60950			
Weight		3.1 (88)	4 (113)	ounces (grams)
Warranty			2	years

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Conducted Noise

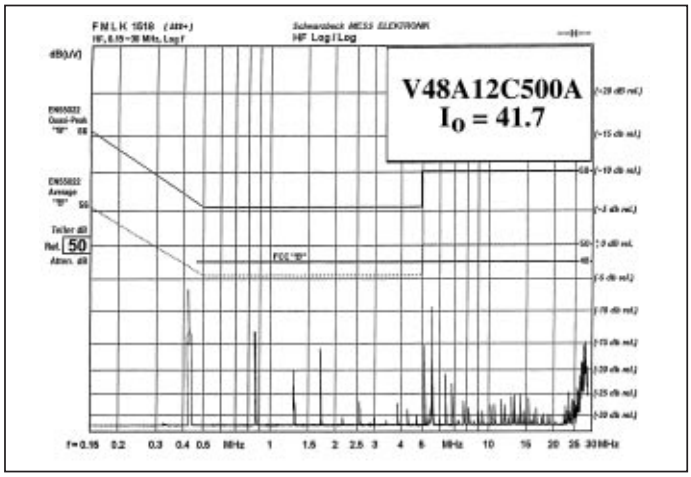


***Figure 1**—FIAM and Model V48A12C500A DC-DC converter.*

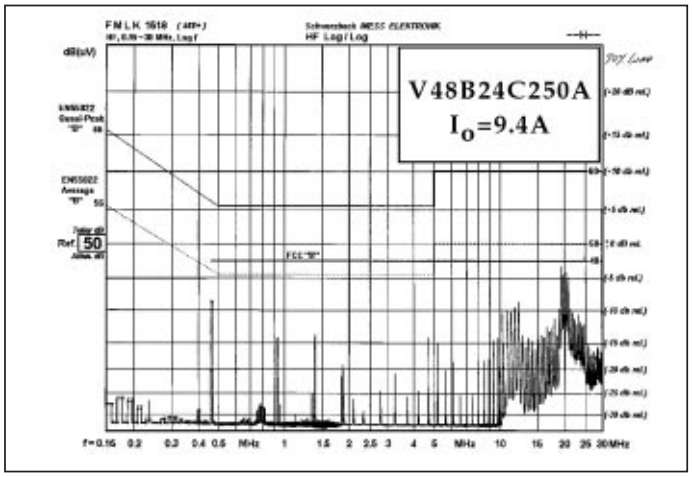


***Figure 2**—FIAM and Model V48B24C250A DC-DC converter.*

Inrush Limiting

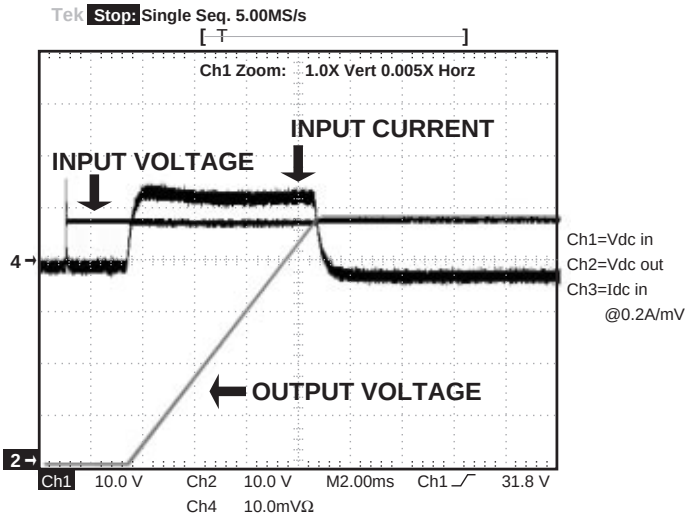


***Figure 3**—Inrush Limiting:* Inrush current with 330µF external capacitance.

Transient Immunity

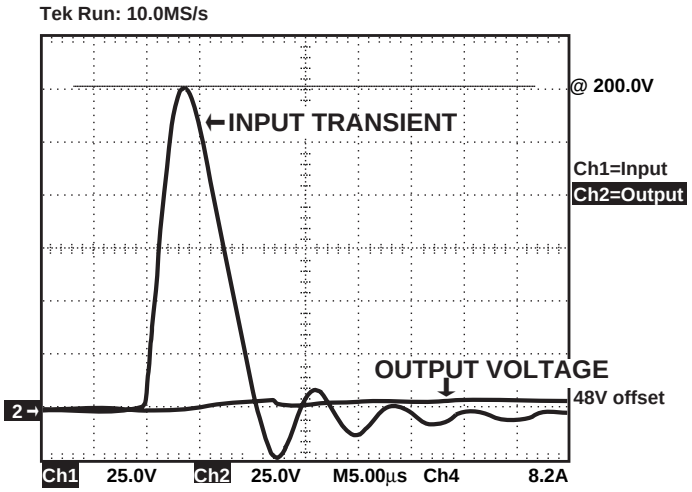
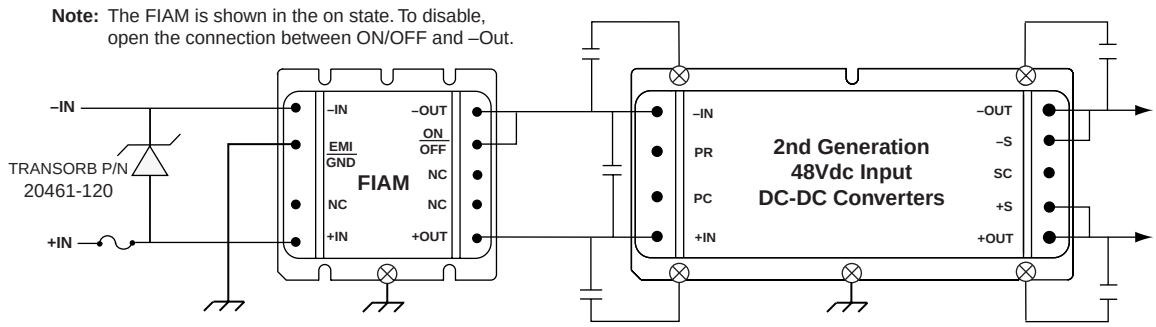


***Figure 4**—Transient Immunity:* FIAM output response to an input transient.

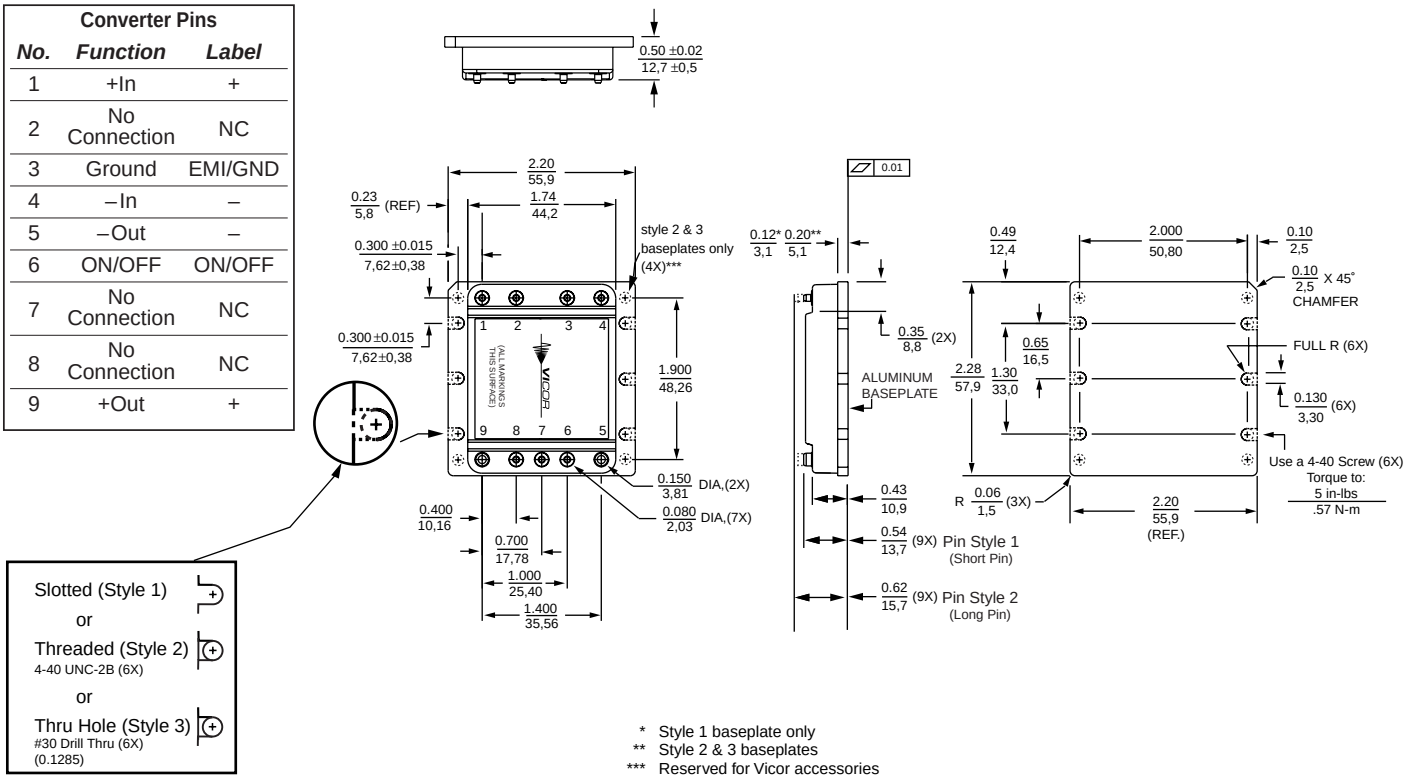
Transient and Surge Protection



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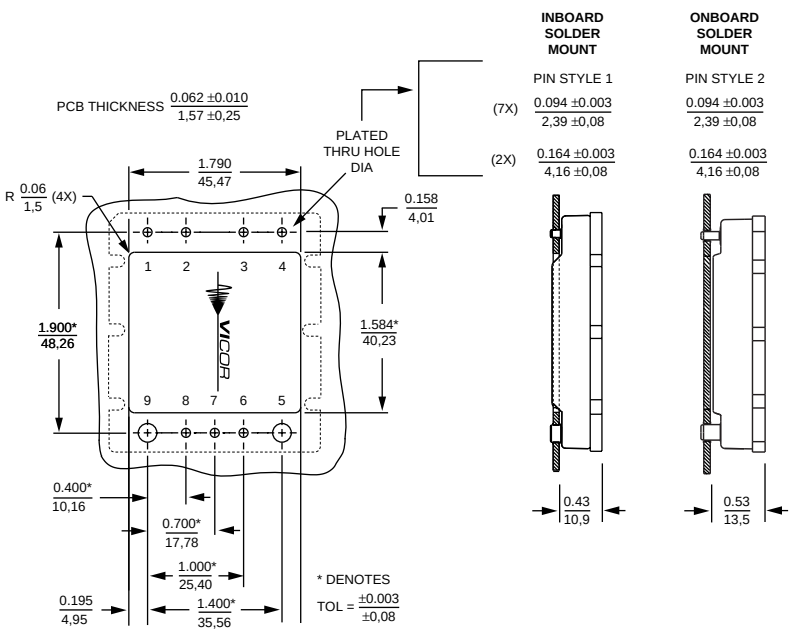
Mechanical Diagram

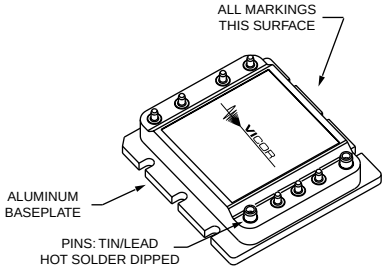
Converter Pins		
No.	***Function***	***Label***
1	+In	+
2	No Connection	NC
3	Ground	EMI/GND
4	–In	–
5	–Out	–
6	ON/OFF	ON/OFF
7	No Connection	NC
8	No Connection	NC
9	+Out	+



* Style 1 baseplate only
** Style 2 & 3 baseplates
*** Reserved for Vicor accessories

PCB Mounting Specifications





Vicor's comprehensive line of power solutions includes modular, high density DC-DC converters and accessory components, configurable power supplies, and custom power systems.

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Specifications are subject to change without notice.



Component Solutions
for Your Power System

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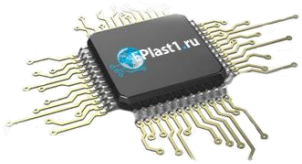
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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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