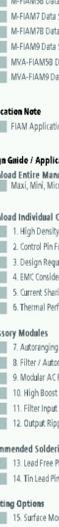


MIL-COTS M-FIAM™ Filter Input Attenuator Module



Specifications

- Input Voltages:** 24 / 28V
- Output Current:** Up to 25 A
- Transient Compliance:** MIL-STD-704E/F
- Dimensions:** MIL-STD-704E/F, MIL-STD-1275A/B/D, AF-FIAM: 2.28 x 2.2 x 0.50 in / 57.9 x 55.9 x 12.7 mm; MVA-FIAM9: 4.56 x 3.52 x 0.81 in / 115.4 x 89.2 x 20.6 mm

Description: The M-FIAM is a DC front-end module that provides EMI filtering and transient protection. The M-FIAM line of products enables designers using Vicor's 24, 28 or 300 V Max, Mini, Micro DC-DC converters or 28 V, MIL-COTS VI Chip modules to meet conducted emission/conducted susceptibility per MIL-STD-461E and input transient surges per MIL-STD-704 or MIL-STD-1275. In addition, the MVA-FIAM9 and MVA-FIAM9 offers designers using the MVA-FIAM9 or M-FIAM9 the capability of compliant mounting with convenient input and output connectors.

Compatible Converters: The MIL-COTS M-FIAM – Filter Input Attenuator Module – works in conjunction with a specific set of Vicor converters to deliver optimal efficiency, power and protection. To easily view the appropriate converter components needed for the desired MIL-COTS M-FIAM please use the PowerBench Solution Selector tool to locate compatible offerings.

Part Number	Input Voltage (V)	Output Current (A)	Transient Compliance	Module Compatibility	Dimensions
M-FIAM3	180 – 375	3	MIL-STD-704E/F	300 Vin Maxi, Mini, Micro	2.28" x 2.2" x 0.51" / 57.9 x 55.9 x 12.7 mm
M-FIAM7	14 – 36	20	MIL-STD-704E/F	24/28 Vin Maxi, Mini, Micro	2.28" x 2.2" x 0.51" / 57.9 x 55.9 x 12.7 mm
M-FIAM9	14 – 50	10	MIL-STD-704E/F, DO-160E	28 Vin MIL-COTS VI Chips	2.28" x 2.2" x 0.51" / 57.9 x 55.9 x 12.7 mm
M-FIAM7B	14 – 50	25	MIL-STD-704E/F, DO-160E	28 Vin MIL-COTS VI Chips	2.28" x 2.2" x 0.51" / 57.9 x 55.9 x 12.7 mm
MVA-FIAM9	10 – 36	18	MIL-STD-704E/F, MIL-STD-1275A/B/D	24/28 Vin Maxi, Mini, Micro	2.28" x 2.2" x 0.51" / 57.9 x 55.9 x 12.7 mm
MVA-FIAM9B	14 – 36	20	MIL-STD-704E/F	24/28 Vin Maxi, Mini, Micro	4.56" x 3.52" x 0.81" / 115.4 x 89.2 x 20.6 mm
MVA-FIAM9C	10 – 36	18	MIL-STD-704E/F, MIL-STD-1275A/B/D	24/28 Vin Maxi, Mini, Micro	4.56" x 3.52" x 0.81" / 115.4 x 89.2 x 20.6 mm

Features & Benefits

- Various transient compliance
- MIL-STD-461 EMI compliance
- Inrush current limiting
- Optional mounting option

Diagram



The FIAM family of front end modules provides EMI filtering, transient protection, and inrush current limiting in DC-DC applications. The FIAM enables designer using Vicor Maxi, Mini, and Micro DC-DC converters, and in select cases VI Chip based devices, to meet the transient, inrush and EMI requirements of the standards referenced in the respective model datasheet.

Click image to enlarge

Documentation

Data Sheets

- M-FIAM3 Data Sheet
- M-FIAM7 Data Sheet
- M-FIAM7B Data Sheet
- M-FIAM9 Data Sheet
- MVA-FIAM9 Data Sheet
- MVA-FIAM9C Data Sheet

Application Note

- FIAM Application Note

Design Guide / Application Manual

- Download Entire Manual
- Maxi, Mini, Micro Design Guide and Applications Manual

Download Individual Chapters

- High Density DC-DC Converter Technology
- Control Pin Functions and Applications
- Design Requirements
- EMC Considerations
- Current Sharing in Power Arrays
- Thermal Performance Information

Accessory Modules

- Autoringing Rectifier Module (ARM)
- Filter / Autoringing Rectifier Module (FARM)
- Modular AC Front-End System (ENMO2)
- 10 High Boost HAM
- Filter Input Attenuator Module (FIAM)
- 12 Output Ripple Attenuator Module (MicroRAM)

Recommended Soldering Methods

- 13 Lead-Free Pins (RoHS)
- 14 Tin Lead Pins

Mounting Options

- 15 Surface Mount Soldering System (SurfMate)
- 16 Through-hole Socket-mount System (InMate)
- 17 Glossary of Technical Terms

Safety Approvals

- M-FIAM3 – CE Marked – Low Voltage Directive (2006/95/EC) and RoHS Recast Directive (2011/65/EU)
- M-FIAM7 – CE Marked – Low Voltage Directive (2006/95/EC) and RoHS Recast Directive (2011/65/EU)
- M-FIAM7B – CE Marked – Low Voltage Directive (2006/95/EC) and RoHS Recast Directive (2011/65/EU)
- M-FIAM9 – CE Marked – Low Voltage Directive (2006/95/EC) and RoHS Recast Directive (2011/65/EU)
- MVA-FIAM9 – CE Marked – Low Voltage Directive (2006/95/EC) and RoHS Recast Directive (2011/65/EU)

M Series Stress Screenings

- MIL-STD-883C

Packaging Options

Drawing Number	Description
25006	Outline Drawing for FIAM Module
25006	Outline Drawing for FIAM Module
25335	Outline Drawing for MVA-FIAM9
25335	Outline Drawing for MVA-FIAM9

Related Products

DC-DC Converters

- V1200, V1-00 Family
- Maxi, Mini, Micro Family

Accessories

Capacitors

X-Cap (Capacitance)	Part Number	Vendor Part Number	Voltage Rating	Technical Drawing
0.22 µF	4058	F1772-422-2000	250 Vdc	PDF Add to Cart
0.01 µF	33643	F1710-310-1000	250 V	PDF Add to Cart
4.700 µF	25283	P101AA472M250V	250 Vdc	PDF Add to Cart

MOVs

Description	Part Number	Vendor Part Number	Voltage Rating	Technical Drawing
10 mm Disc	30234-120	ER2Y100121	120 V	PDF Add to Cart
Transorb, SMC	19180-510	1.530M31AT63	51 V	PDF Add to Cart

EMI Shielding

Mini-size Shield	Part Number	Module Style	Technical Drawing
FG Stacked baseplate	30198	Mini	PDF Add to Cart
For Threaded or Through-hole Baseplate	30180	Mini	PDF Add to Cart

Fuses

Fuse (Current Rating)	Part Number	Vendor Part Number	Voltage Rating	Technical Drawing
10 A	30247	BCL1MCR3010A	125 V	PDF Add to Cart

LeadMates

LeadMates listed in the table below are for use with Vicor Mini-size modules. These heat sinks are NOT for use with Vicor V1-00-size modules.

Description	Part Number	Module Style	Technical Drawing
For use with Mini-size modules	23466	Mini	PDF Add to Cart

Sockets

Example Application	Part Number	Mounting Style	Module Style	Pin Style	Beard Thickness	Assembly Drawing	Technical Drawing
Set (50 Input, 15 Output)	18021	SurfMate	Mini	Short RoHS (Gold)	All	PDF BOM	PDF Add to Cart
Input Only (35 Pieces)	22100	SurfMate	Mini	Short RoHS (Gold)	All	PDF BOM	Add to Cart
Output Only (35 Pieces)	22102	SurfMate	Mini	Short RoHS (Gold)	All	PDF BOM	Add to Cart

For InMate headers, all sockets are supplied to assure proper alignment during installation.

LeadMates

LeadMates listed in the table below are for use with Vicor Mini-size modules. These heat sinks are NOT for use with Vicor V1-00-size modules.

Description	Part Number	Mounting Style	Module Style	Pin Style	Beard Thickness	Assembly Drawing	Technical Drawing
Example Inboard Mounting	18396	Inboard	Mini	Short RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Example Onboard Mounting	18374	Inboard	Mini	Short RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Input Only (35 Pieces)	18384	Inboard	Mini	Short RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Output Only (35 Pieces)	18390	Onboard	Mini	Long RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Input Only (35 Pieces)	18378	Onboard	Mini	Long RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Output Only (35 Pieces)	18396	Onboard	Mini	Long RoHS (Gold)	0.063" / 0.051" / 0.104"	PDF BOM	Add to Cart
Set (50 Input, 15 Output)	18367	Inboard	Mini	Short RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Input Only (35 Pieces)	18375	Inboard	Mini	Short RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Output Only (35 Pieces)	18385	Inboard	Mini	Short RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Set (50 Input, 15 Output)	18369	Onboard	Mini	Long RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Input Only (35 Pieces)	18379	Onboard	Mini	Long RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Output Only (35 Pieces)	18391	Onboard	Mini	Long RoHS (Gold)	0.064" / 0.084" / 0.104"	PDF BOM	Add to Cart
Set (50 Input, 15 Output)	21511	Onboard	Mini	Long RoHS (Gold)	0.125" / 0.1125" / 0.1375"	PDF BOM	Add to Cart
Input Only (35 Pieces)	21539	Onboard	Mini	Long RoHS (Gold)	0.125" / 0.1125" / 0.1375"	PDF BOM	Add to Cart
Output Only (35 Pieces)	21544	Onboard	Mini	Long RoHS (Gold)	0.125" / 0.1125" / 0.1375"	PDF BOM	Add to Cart

Socket Extraction Tool

Module Exchange Tool	Part Number	Module Style	Technical Drawing
Used to facilitate the proper extraction of Mini modules from InMate or SurfMate sockets.	22828	Mini	PDF Add to Cart

Standoffs

Mini and Micro modules require a minimum of four Standoffs. Bags of 1000 Standoffs do not include screws #4-40 thread hardware required.

[PDF](#) Standoff Mounting Design Information

Standoffs for Solder Mounted Modules	Part Number	Mounting Style	Baseplate Style	Heat Sink	Pin Style	Beard Thickness	Technical Drawing
Kit (50 Standoffs (50 Screws))	18150	Inboard	Slotted	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19126	Inboard	Slotted	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18151	Inboard	Slotted	Threaded	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19127	Inboard	Slotted	Threaded	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18146	Inboard	Through hole	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19122	Inboard	Through hole	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18147	Inboard	Through hole	Threaded	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19123	Inboard	Through hole	Threaded	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18146	Inboard	Threaded	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19122	Inboard	Threaded	Through hole	Short (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18156	Onboard	Slotted	Through hole	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19132	Onboard	Slotted	Through hole	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18157	Onboard	Slotted	Threaded	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19124	Onboard	Slotted	Threaded	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18146	Inboard	Through hole	Through hole	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
Bag (1000 Standoffs (50 Screws))	19122	Inboard	Through hole	Through hole	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	Add to Cart
Kit (50 Standoffs (50 Screws))	18147	Inboard	Through hole	Threaded	Long (TiN/Lead, or Long RoHS (Gold))	0.063"	PDF Add to Cart
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