

MI-RAM

MILITARY

RIPPLE ATTENUATOR MODULE

FEATURES

- Reduces output PARD to <10 mV pp
- Full attenuation up to 20 A load
- No adjustments required
- Compatible with all MI-Family converters from 5 – 50 Vdc output
- Efficiency: 93 – 99%
- Converter sense, trim, OV & OC retained
- MIL-STD-810 environments
- Size: 2.28" x 2.4" x 0.5" (57,9 x 61,0 x 12,7 mm)



PRODUCT INFORMATION

The **MI-RAM** is designed for applications where extremely low noise outputs are required. When used with any Vicor MI-Family DC-DC converter, the MI-RAM reduces both line frequency related ripple and switching noise to less than 10 mV p-p, DC to 20 MHz.

The combination of the MI-RAM with an MI-Family converter provides the output noise performance of a linear supply at a power density in excess of 15 W/in³.

All of the features of the MI-Family converter remain available while using the MI-RAM, including output voltage trimming, OVP and OTP (MI-200 only), current limiting, remote sense, and output inhibit.

Full encapsulation in a low profile package enables the MI-RAM to meet MIL-STD-810 environmental testing requirements.

PRODUCT GRADE

PARAMETER	PRODUCT GRADE	
	I-GRADE	M-GRADE
Storage temperature	-55°C to +125°C	-65°C to +125°C
Operating temperature (baseplate)	-40°C to +100°C	-55°C to +100°C
Power cycling burn-in	12 hrs, 29 cycles	96 hrs, 213 cycles
Temperature cycled with power off	12 cycles	12 cycles
17°C per minute rate of change	-65°C to +100°C	-65°C to +100°C
Test data supplied at these temperatures ^[a]	-40°C, +80°C	-55°C, +80°C
Warranty	2 years	2 years
Environmental compliance	MIL-STD-810	MIL-STD-810

GENERAL SPECIFICATIONS

(At TBP = 25°C)

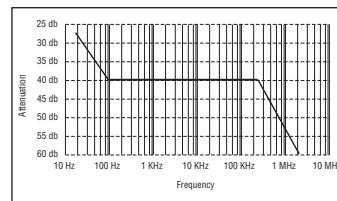
PARAMETER	MIN	TYPE	MAX	UNIT	NOTE
Output noise and ripple	2.0	3.0		mV p-p	MI-200; 10% to 100% load
		6.0	10.0		mV p-p
Input voltage range	5.0		50	Vdc	
Output voltage accuracy	99.5		100.5	%	Of MI source converter
Full load current			10	A	MI-RAM-I1 and MI-RAM-M1
			20	A	MI-RAM-I2 and MI-RAM-M2
DC voltage drop	0.34		0.38		10% to full load
Dissipation = (DC voltage drop x load current) + (Vin x 15 mA)					
Isolation		250		Vrms	Input / output to baseplate
Weight		3.7 (105)		ounces (grams)	

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PART NUMBERING

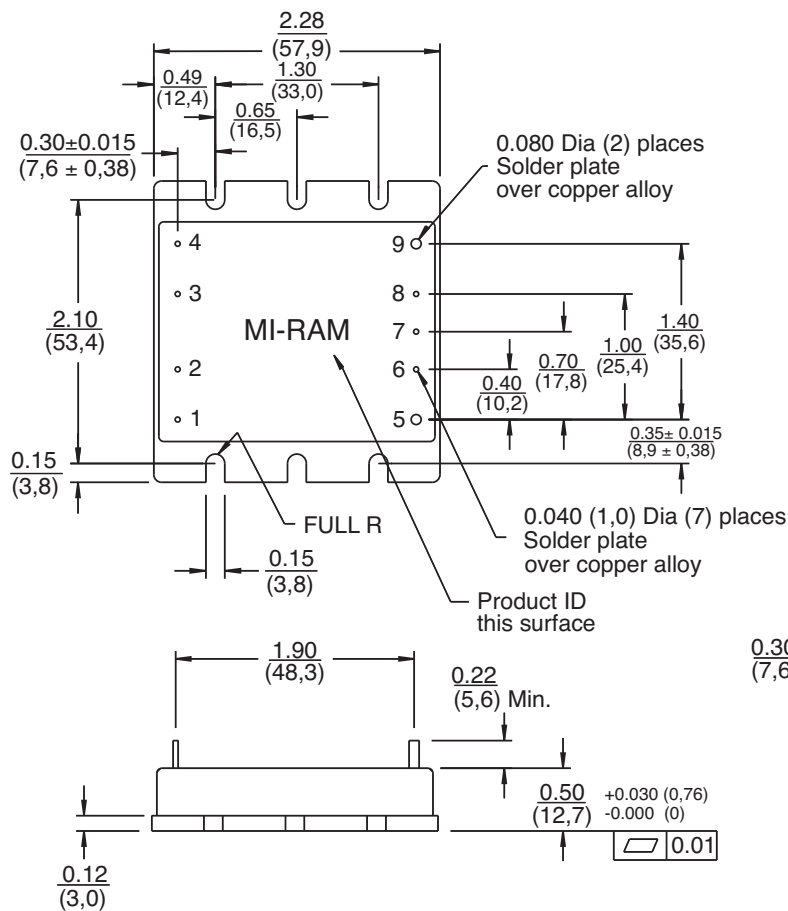
MI-RAM	-	M	2
Product Type		Product Grade	Current Rating
		I = -40°C to +100°C	1 = Up to 10 A
		M = -55°C to +100°C	2 = Up to 20 A



Attenuation vs. Frequency (typical)

MECHANICAL

$\frac{in}{(mm)}$



Pin #	Function
1	+In
2	+Sense In
3	-Sense In
4	-In
5	+Out
6	+Sense
7	NC
8	-Sense
9	-Out

