



MI-RAMTM

Military Ripple Attenuator Modules

Product Highlights

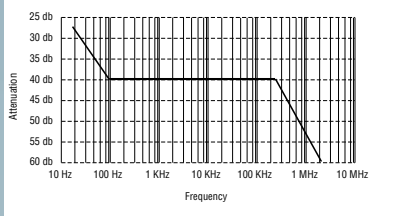
The MI-RAM is designed for military applications where extremely low noise outputs are required. When used with any Vicor MI-Series DC-DC converter, the MI-RAM reduces both line frequency related ripple and switching noise to less than 10mV p-p, DC to 20MHz.

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

All of the features of the MI-Series 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.

All units are manufactured in ISO 9001-registered facilities. Full epoxy encapsulation in a low profile package enables the MI-RAM to meet MIL-STD-810 environmental testing requirements.

Attenuation vs. Frequency (typical)



Input to the converter
(10V/cm)

Output from the RAM
(2mV/cm)



Features

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

Specifications

(At $T_{BP} = 25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Output noise and ripple		2.0	3.0	mV pp	MI-200; 10% to 100% load
		6.0	10.0	mV pp	MI-J00; 10% to 100% load
Input voltage range	5Vdc		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		3.0 (85)		ounces (grams)	

Product Grade Specifications

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 hours, 25 cycles	96 hours, 200 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*	-40°C, +80°C	-55°C, +80°C
Warranty	2 years	2 years
Environmental compliance	MIL-STD-810	MIL-STD-810

*Test data available for review or download from vicorpower.com

Mechanical Drawing

