

EMISSIONS AND IMMUNITY		
Characteristic	Standard	Compliance
Input Current Harmonics	IEC/EN 61000-3-2	Class A
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3	Complies
Conducted Emissions	EN 55022	Class B
	FCC Part 15	Class B
ESD Immunity	IEC/EN 61000-4-2	Level 4, Criterion 2
Radiated Field Immunity	IEC/EN 61000-4-3	Level 3, Criterion A
Electrical Fast Transient Immunity	IEC/EN 61000-4-4	Level 4, Criterion A
Surge Immunity	IEC/EN 61000-4-5	Level 3, Criterion A
Radiated Field Conducted Immunity	IEC/EN 61000-4-6	Level 3, 10V/m, Criterion A
Magnetic Field Immunity	IEC/EN 61000-4-8	Level 3, Criterion A
Voltage dips, interruptions	IEC/EN 61000-4-11	Level 3, Criterion B

EMI CONSIDERATIONS
For optimum EMI performance, the power supply should be mounted to a metal plate grounded to all 4 mounting holes of the power supply. To comply with safety standards, this plate must be properly grounded to protective earth (see mechanical dimension notes). Pre-compliance testing has shown the stand-alone power supply to comply with EN55022 Class A radiated emissions. Class B radiated emissions are achievable with a metal enclosure. Radiated emission results vary with system enclosure and cable routing paths.

SAFETY CONSIDERATIONS
 1. This power supply is a component level power supply intended for use in Class I or Class II applications. Secondary ground traces need to be suitably isolated from primary ground traces when used in Class II applications. 2. When the power supply is used in Class II equipment, all ground traces and components connected to the primary side are considered primary for spacing and insulation considerations.

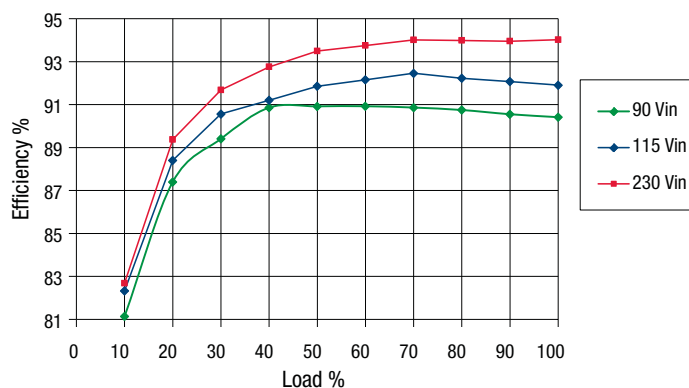
STATUS AND CONTROL SIGNALS – MVAC250-xxAFD ONLY		
Parameter	Models	Conditions
PS_ON	All models except as noted below.	This signal must be pulled low (sink current >2mA) to +5V_AUX_RTN to turn on the main and Fan (V2) output. The +5V_AUX output is independent of the PS_ON signal and comes up automatically when the input AC or input DC voltage is applied within their specified operating ranges.
	MVAC250-xxAFT	This pin is pulled high internally and so all three outputs (main, Fan output and +5V_AUX) come up automatically when the input AC or input DC voltage is applied within their specified operating ranges. Pulling this pin low (sink current >2mA) to +5V_AUX_RTN will disable the main and fan outputs.
PWR_OK	All models	Open collector logic goes high 50-200 msec after main output is in regulation; it goes low at least 6 msec before loss of regulation. Internal 10K pull up to +5V_AUX is provided. Applications using PWR_OK signal should maintain a minimum load of 5W on the main or fan output.

1. Noise and ripple is measured at an oscilloscope jack on the output, 20MHz bandwidth, and with 0.1µF ceramic and 10µF aluminum electrolytic capacitors across the output pins.
2. Unless otherwise specified all measurements are taken at 120Vac input and 25°C ambient temperature.
3. Fan (V2) regulation band applies from 0.1A to 1A load with a minimum of 10W load on the main (V1) output.
4. Fan (V2) has overvoltage protection (tracking V1) and short circuit protection. Overloading the Fan (V2) output can result in permanent damage to the unit.
5. 24V and 50V models may exhibit up to 5% turn on overshoot for loads less than 4% of full load.
6. See current sharing option section for droop characteristics.
7. No load Input power varies by model and by input line. Measurement is difficult to make due to burst mode operation. Please contact Murata sales if additional information is required.
8. All three output returns are isolated from each other (see isolation characteristics section); the returns may be tied together externally.
9. Load steps beginning from combined loads on the main and fan outputs of less than 5W may result in transient undershoots outside of the spec limits.

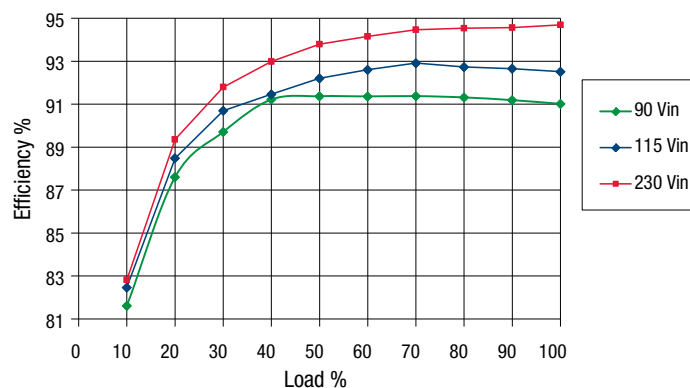
PART NUMBER STRUCTURE
MV A x yyy - zz hhh Murata Manufacturing Corp. Form Factor Outline A = 2x4", 3x5", or 4x7" Outline Detail B & D = 2x4" C = 3x5" F = 4x7" Modification Code Options A = Aux 5V Standby Voltage F = Aux 12V Fan Output D = Droop Current Share T = Terminal Output Connector R = Terminal Output Connector with Internal Or-ing Solution and Droop Current Share Main Output Voltage (V) (12, 24, 28, or 50) Output Power (W) (40, 65, 120, 160, 250, 400, or 750)

PERFORMANCE DATA

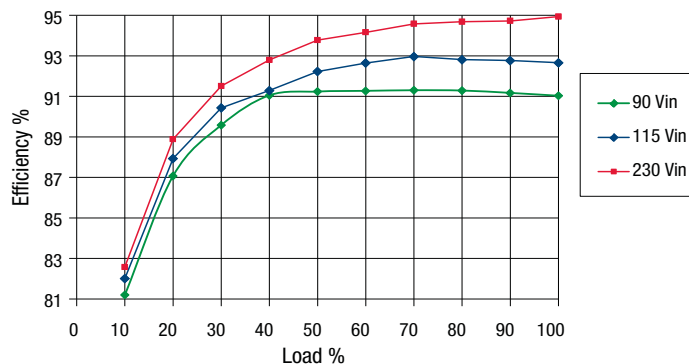
MVAC250-12F Efficiency



MVAC250-24F Efficiency



MVAC250-48F Efficiency



Inrush Current



Time: 100 msec/div, Ch1: 500 V/div, Ch4: 20 A/div, Vin: 264 VAC, I_{pk} = 15.1 A AC applied at peak of sine wave