

UV48 MICROVERTER® SERIES

126-252 WATTS 48VDC INPUT 3/4 BRICK SINGLES FULL BRICK TRIPLES

DESCRIPTION

The μ V48 Series are high density DC-DC converters designed for use in telecom and other centralized modular and distributed power applications. The μ V48 Series use metal PC boards, planar transformers, and surface mount construction to produce up to 252 watts in a tiny package.

FEATURES

- Miniature Size
- High Density – Up to 58 W/in.3
- Constant Frequency – 370KHZ
- Parallelable with Current Sharing
- Fault Tolerant – n+m Redundancy
- Extremely Low Thermal Resistance
- Output Good Signal
- Optional Sync Pin
- UL/CSA/TUV APPROVALS
- Non-Shutdown OVP
- Logic On-Off
- Thermal Protection
- Current Limit/Short Circuit Protection

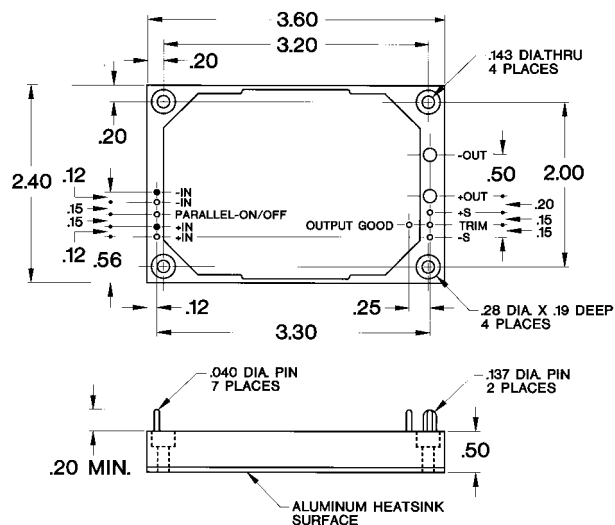
MODEL SELECTION

Model	Output Voltage	Output Current
μ V48-2	2.1V	60A
μ V48-3	3.3V	50A
μ V48-5	5V	40A
μ V48-8	8V	30A
μ V48-12	12V	20A
μ V48-15	15V	16A
μ V48-24	24V	10A
μ V48-28	28V	9A
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μ V48-T512	5V	35A*
	12V	3A*
	-12V	3A*
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μ V48-T515	5V	35A*
	15V	3A*
	-15V	3A*

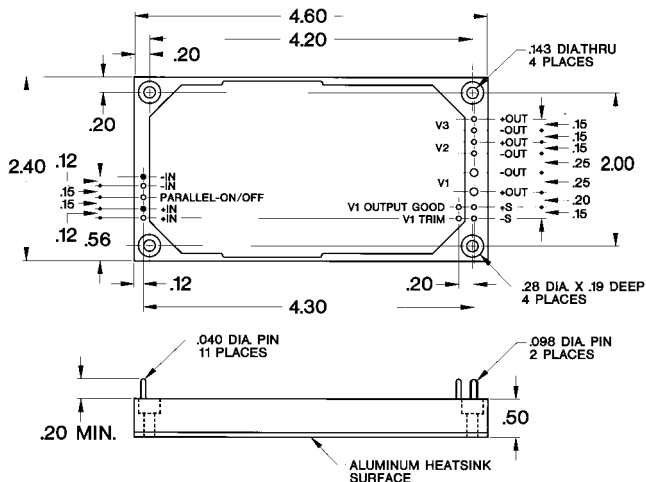
*Maximum Total Output Power 185 W.
Option: –A Output Good Deleted
–S Sync. Pin Option



SINGLE OUTPUT



TRIPLE OUTPUT



UV48 MICROVERTER SERIES SPECIFICATIONS

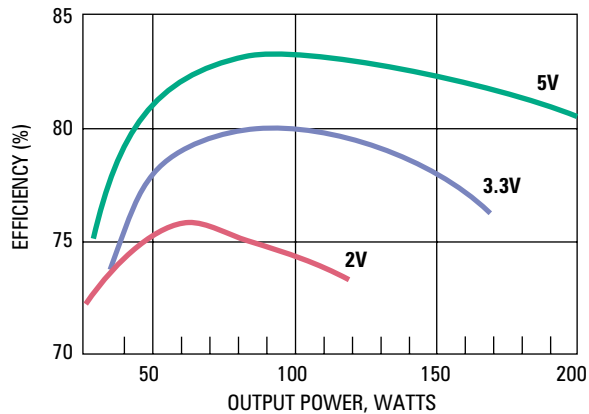
		Min	Typical	Max	Units	Conditions
INPUT	Input voltage	36	48	72	VDC	
	Brownout	32			VDC	75% full output
	In rush charge		2.6x10 ⁻⁴		Coulombs	
	Input reflected ripple		20		%	full load, nominal line
	No load power dissipation		2.5		watts	singles
			7.5		watts	triples
	Logic disabled power in		1		watts	
	Input ripple rejection		60		dB	@ 120 Hz
	Input overvoltage	72		100	VDC	no damage to units
OUTPUT	(Singles and Main Output of Triple)					
	Set point accuracy			±1	%	no load
	Load regulation		.02	.2	%	0 to full load
	Line regulation		.02	.2	%	over range
	Ripple		1	3	%p-p	0 to 20MHz
	Trim range	±10			%	consult factory for extended range
	Remote sense compensation			0.5	V total	
	OVP (non shutdown auto. recovery)		120*		%	* or Vout +.5V whichever is greater
	Current Limit (auto.recovery)		110-120		%	full load
	Current sharing (automatic)		±5		%	full load
	Transient response singles		50		μs	20-80% load,.5A/μs, Vout 1%
	Transient response main output triples	200			μs	10-20A, aux. loads 2.5A, .25A/μs, Vout 1%
	Transient response waveforms	<i>See web site: www.roassoc.com</i>				
	Temp drift			.02	%/°C	
	Efficiency	<i>See Curves on Page 80</i>				
OUTPUT	(Auxiliary Outputs of Triples)					
	Set point accuracy		±0.5	±1	%	10A on main, no load auxiliaries
	Load regulation		.2	.5	%	0 to full load
	Line regulation		.01	.1	%	over range
	Ripple		.25	.5	%p-p	0 to 20 mHz
	Current Limit (auto.recovery)		110-120		%	full load
	Transient response		200		μs	20-80% load, Vout within 1%
	Transient response		200		μs	low line to high line, Vout 1%
	Transient response		200		μs	50-100% load, Vout 1%
Temp drift		.06		%/°C		
CONTROL	Turn-on time		2.5		ms	input power applied, Vout 1%
	Logic turn on time		1		ms	Vout within 1%
	Logic disabled current		1		mA	sink
ISOLATION	Input to output	3000			VDC	consult factory for procedure
	Input to case	1500			VDC	
	Output to case	500			VDC	
	Input to output capacity		2200		pF	
THERMAL	Operating temperature	-40		+100	°C case	
	Automatic shut-down temperature	+100	+105	+110	°C case	
	Thermal resistance case to ambient		4.2		°C/w	single @ Tc=100°C
		3.3		°C/w	triple @ Tc=100°C	
WEIGHT	Singles		7		oz.	
	Triples		9		oz.	
SIZE	Singles		0.5x2.4x3.6		inches	
	Triples		0.5x2.4x4.6		inches	

EFFICIENCY CURVES

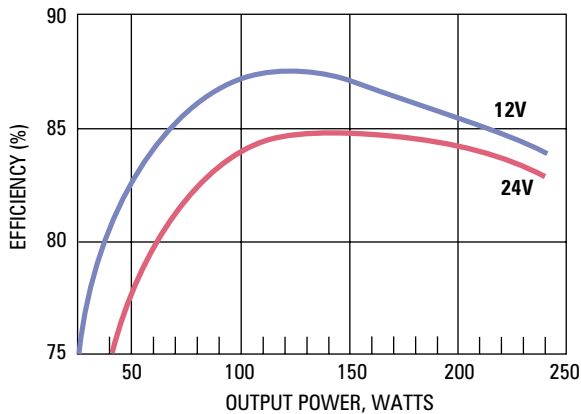
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MICROVERTER SERIES

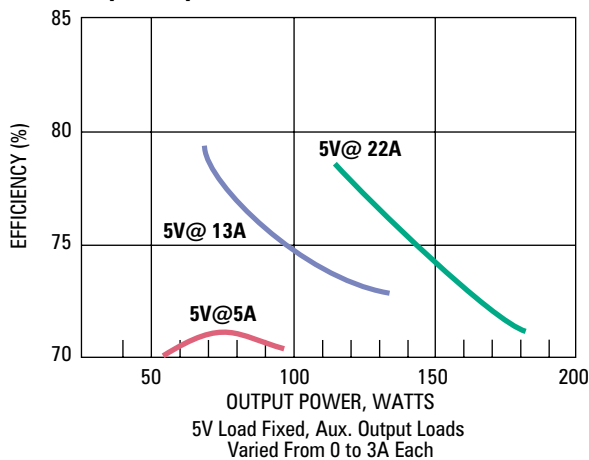
2, 3 and 5V Output Models



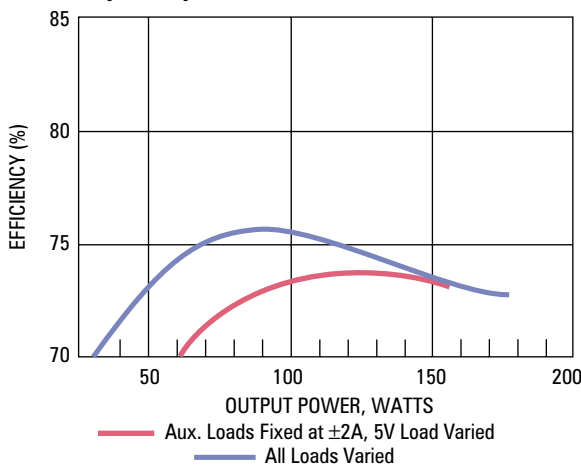
12 and 24V Output Models



Triple Output Models



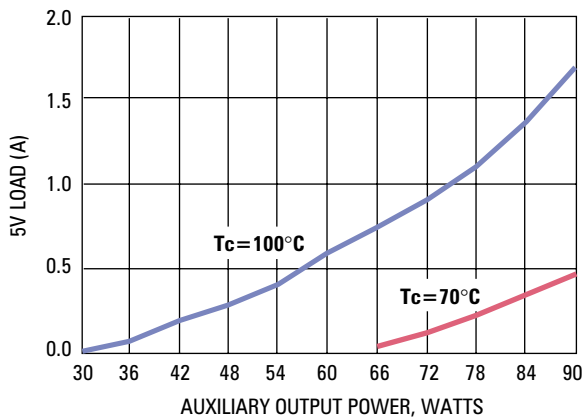
Triple Output Models



MINIMUM LOAD-TRIPLES

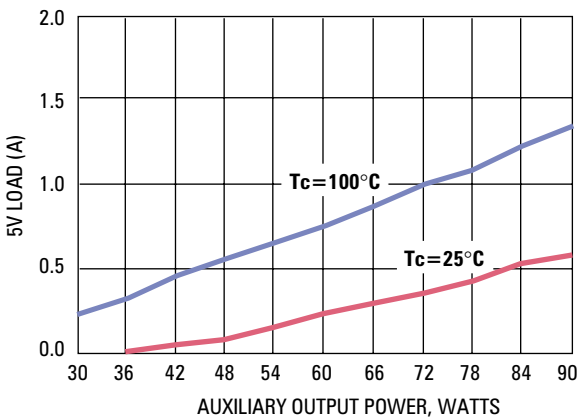
Minimum 5V Load vs. Auxiliary Output Power

μV28 and μV48-Triple Output Models



Minimum 5V Load vs. Auxiliary Output Power

μV300 Triple Output Models



Note: Efficiencies are typical for Tc=25°C and Nominal Input. Input and Output Voltages are measured at the Pins.