

Wall Industries, Inc.

MPQ48S24-100

100 W DC-DC Converter
36-75 Vdc Input
24 Vdc Output at 4.17 A
Quarter-Brick Package



Features:

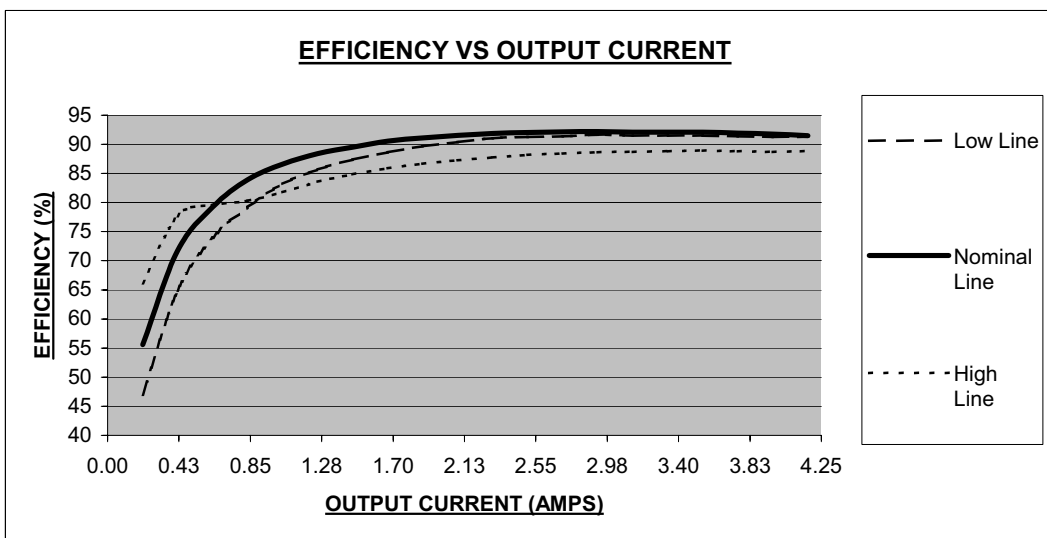
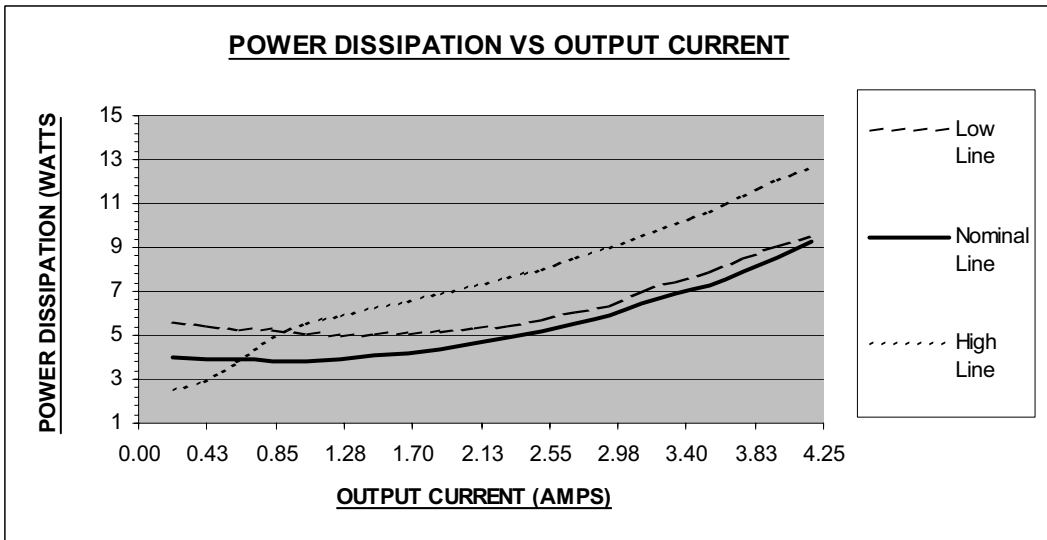
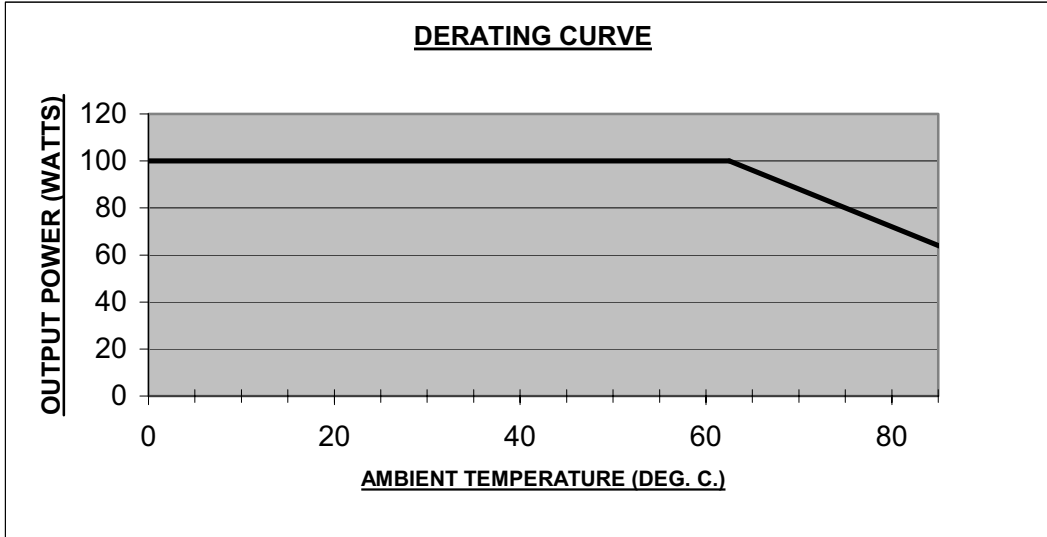
- **Over 87% Efficient at Full Load**
- **Fast Transient Response**
- **Operation to No Load**
- **Output Trim +/-10%**
- **Remote ON/OFF**
- **Remote Sense Compensation**
- **Low Output Ripple**
- **Fixed Switching Frequency**
- **Output Over Current Protection**
- **Output Short Circuit Protection**
- **Over Temperature Protection**
- **1500 VDC Isolation**
- **100% Burn In**
- **Heatsink Available**

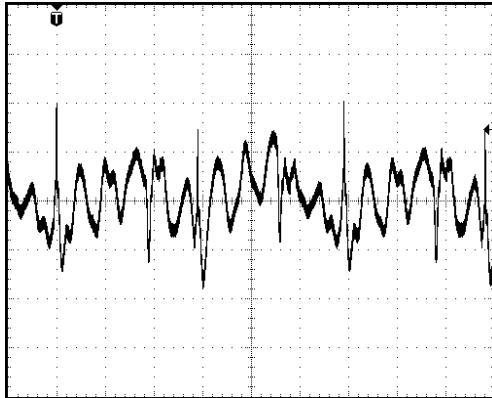
Description:

The MPQ series is a high density, low voltage input quarter brick converter that incorporates the desired features required in today's demanding applications while maintaining low cost. When performance, reliability, and low cost are needed, the MPQ series delivers.

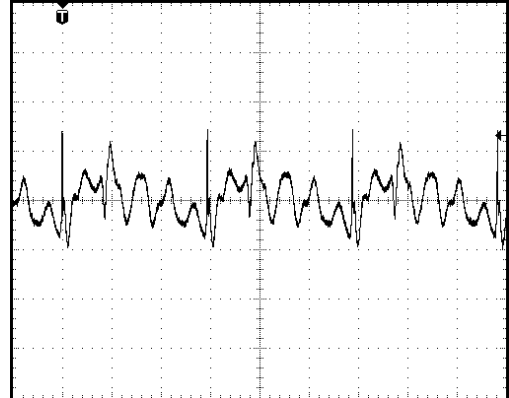
Technical Specifications		Model No.		MPQ48S24-100			
All specifications are based on 25C, Nominal Line and Full Load unless otherwise noted. We reserve the right to change specifications based on technological advances.							
SPECIFICATION		Related condition		MIN	NOM	MAX	Unit Measured
INPUT							
Turn on at					35		Volt DC
Turn off at					34		Volt DC
Input Over voltage Shutdown							
Turn off at					n/a		Volt DC
Turn on at					n/a		Volt DC
Operating Voltage Range		Rated Input Voltage		36	48	75	Volt DC
Maximum Input Current		Low Line 100% load			3		A
No Load Input Current					94		mA
Input Current under "LOGIC OFF"					1		mA
Inrush Current Transient Rating					1		A ² Sec
Reflected Ripple Current		12uH / 33 uF input filter			6		mA
OUTPUT							
Output Voltage Set point				23.76	24	24.24	Volt DC
Output Voltage Regulation							
Over Load					± 0.2		%
Over Line					± 0.2		%
Over Temperature					0.02		% / °C
Output Voltage Ripple and Noise							
Basic Ripple					70	200	mV
Spikes P-P					100	200	mV
Output Current Ranges		Rated Output Current		0		4.17	A
Output Current Limit		Self Resetting		4.59	5.4	6.2	A
Short Term Output Current Surge							A/sec
DYNAMIC CHARACTERISTICS							
Input Voltage Ripple Rejection		120 Hz			60		dB
Output Transient and Load Changes							
Load step / Δ V		X	50 to 75%		50 to 100%	130	mV
Load step / Δ V		X	75 to 50%		100 to 50 %	90	mV
Recovery Time		To within 1% Rated Vo			50		μsec
Turn on Delay		From Vin(nom) to 90% Vout (nom)			25		msec
Overshoot of Output Voltage		Full Load Resistive			0		%
EFFICIENCY							
@ 100% load					91		%
@ 75% load					92		%
@ 50% load					92		%
@ 25% load					87		%
TEMPERATURE CONSIDERATIONS							
Thermal Resistance							
Normal Convection		Rθc-a					°C/Watt
100 lfm							°C/Watt
200 lfm							°C/Watt
300 lfm							°C/Watt
400 lfm							°C/Watt
Heatsink Considerations		Available, Contact Factory					
General Technical Data							
Switching Frequency		Fixed			330		KHz
Remote ON OFF Control		Active HIGH or LOW					High/Low TTL
Trimmability				21.6		26.4	Volt DC
Over Temperature Shutdown		PCB Temperature				125	°C
MTBF							
		Bellcore TR-332			1.81 E6		Hours

Note: Positive Remote ON/OFF control is standard. To order negative logic Remote ON/OFF control add the suffix "R" to the part number.

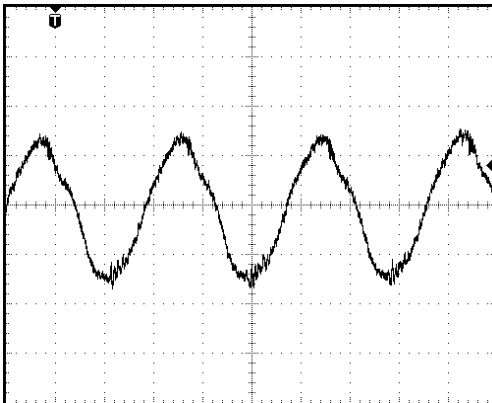




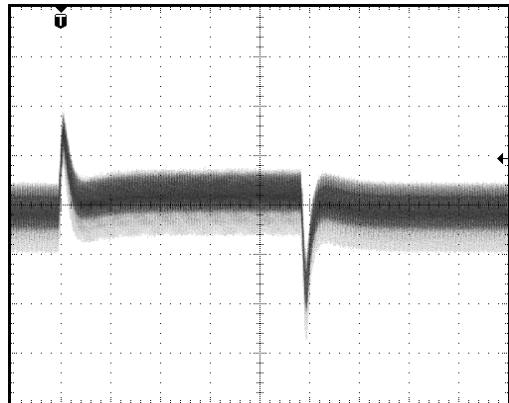
TYPICAL OUTPUT RIPPLE
50mV/div, 1uS/div, full load, 36Vin
10uF // 0.1uF decoupling caps room temp



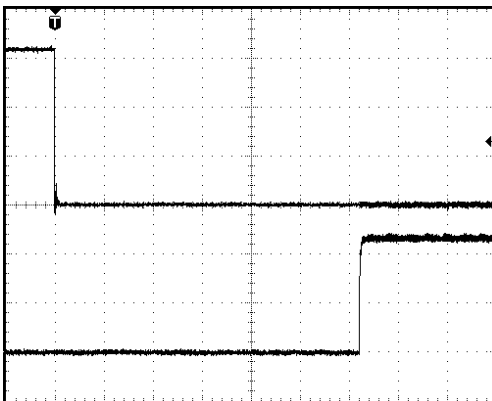
TYPICAL OUTPUT RIPPLE
50mV/div, 1uS/div, full load 75Vin
10uF // 0.1uF decoupling cap room temp



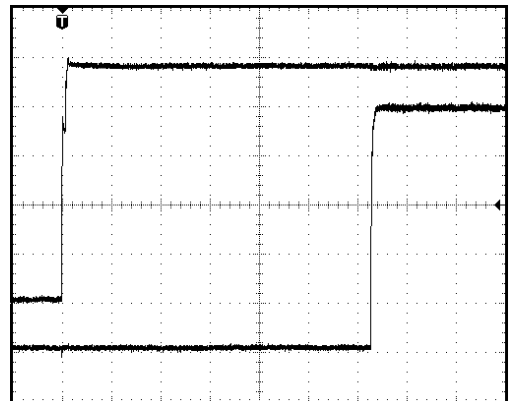
TYPICAL INPUT RIPPLE CURRENT
2mA/div, 1uS/div, full load 48Vin at
room temp with a 12 uH / 33 uF input filter



TYPICAL TRANSIENT RESPONSE
50mV/div, 200uS/div, 50% full load
to 100% full load 48Vin room temp



TYPICAL RISE TIME & TURN-ON DELAY
USING LOGIC ENABLE
2V/div, 4mS/div (Vout), 1V/div 4mS/div (logic
enable) 36Vin, full load at room temp

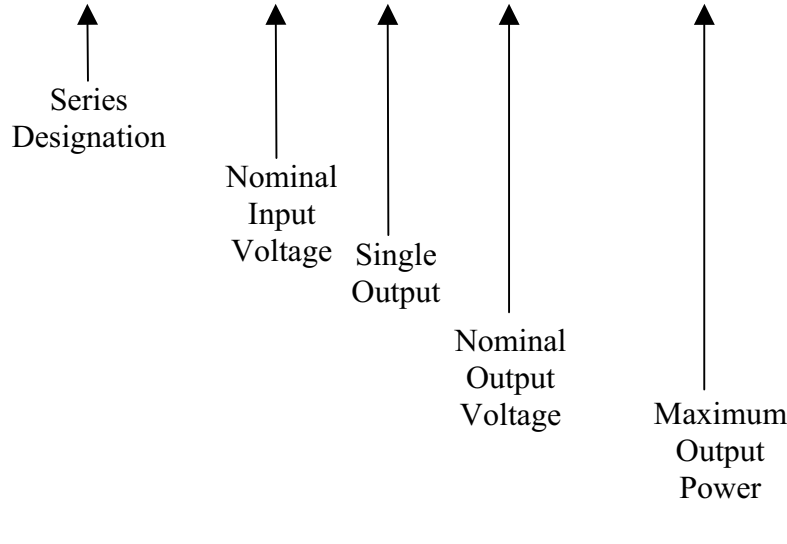


TYPICAL RISE TIME & TURN-ON DELAY
WITH Vin 0-48V
1V/div, 4mS/div (Vout), 10V/div, 4mS/div (Vin)
at room temp

Ordering Information:

Part Number Example:

MPQ 48 S 24 – 100 R



Options	
	Leave Blank for no Options
R	Active Low
C	Case
HS	Heatsink

Company Information:

Wall Industries, Inc. has created custom and modified units for over 40 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2000 certification is just one example of our commitment to producing a high quality, well documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

Phone: ☎ (603)778-2300
Toll Free: ☎ (888)587-9255
Fax: ☎ (603)778-9797
E-mail: sales@wallindustries.com
Web: www.wallindustries.com
Address: 5 Watson Brook Rd.
Exeter, NH 03833