

## key features

- 300W standard full brick
- industry standard footprint
- open-frame packaging
- 100C baseplate operation
- planar magnetics
- superior transient response
- 1500 VDC isolation
- VWB booster modules available



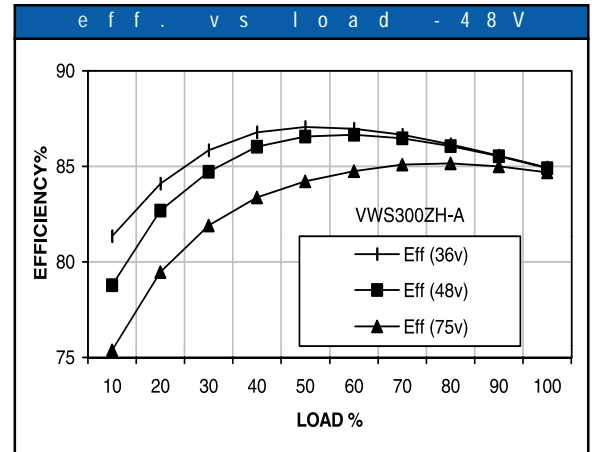
The VWS family of DC to DC converters are direct replacement converters for the industry standard full brick. Featuring a fixed frequency design, the VWS family offers excellent transient response and predictable EMI performance. The VWS can be combined with IPD's VWB booster modules to provide increased power. The VWS converters use 100% surface mount construction, use planar magnetics, are fully compatible with production board washing processes. The VWS modules are manufactured in IPD's ISO9001 factory.

## technical specifications

input	
voltage range	18 - 36 VDC
24 VDC nominal	36 - 72 VDC
48 VDC nominal	50mA p-p
input reflected ripple current	17-15 VDC /35-32VDC
-undervoltage lockout - turn on / turn off	

output	
setpoint accuracy	±1%
line regulation $V_{in}$ min. - $V_{in}$ max., $I_{out}$ rated	0.2% $V_o$
load regulation $I_{out}$ min. - $I_{out}$ max., $V_{in}$ nom.	0.2% $V_o$
remote sense headroom	0.5 VDC
minimum output current	10 %
dynamic regulation, loadstep	25% $I_o$
Pk deviation	4% $V_o$
settling time	500 $\mu$ S
voltage trim range	±10%
current limit threshold range, % $I_o$ rated	110 - 140%
OVP trip range	120 - 140% $V_{out}$ nom.
OVP type	self recovering
short circuit/over current protection	shutdown/hiccup

general	
turn-on time	10 ms
remote shutdown	positive logic
remote shutdown reference	$V_{in}$ negative
switching frequency	500 KHz
isolation	
input - output	1500 VDC
input - case	1050 VDC
output - case	500 VDC
temperature coefficient	0.03 %/°C
case temperature	
operating range	-40 to +100°C
storage range	-40 to +125°C
thermal shutdown range	105 - 115°C
vibration, 3 axes, 5 min each	5 g, 10-55Hz
MTBF† (Bellcore TR-NWT-000332)	consult factory
safety	UL 1950, CSA 22.2-950, EN60950
weight (approx.)	6.0 oz.



notes
† MTBF predictions may vary slightly from model to model.
Specifications typically at 25°C, normal line, and full load - unless otherwise stated.

## m o d e l s

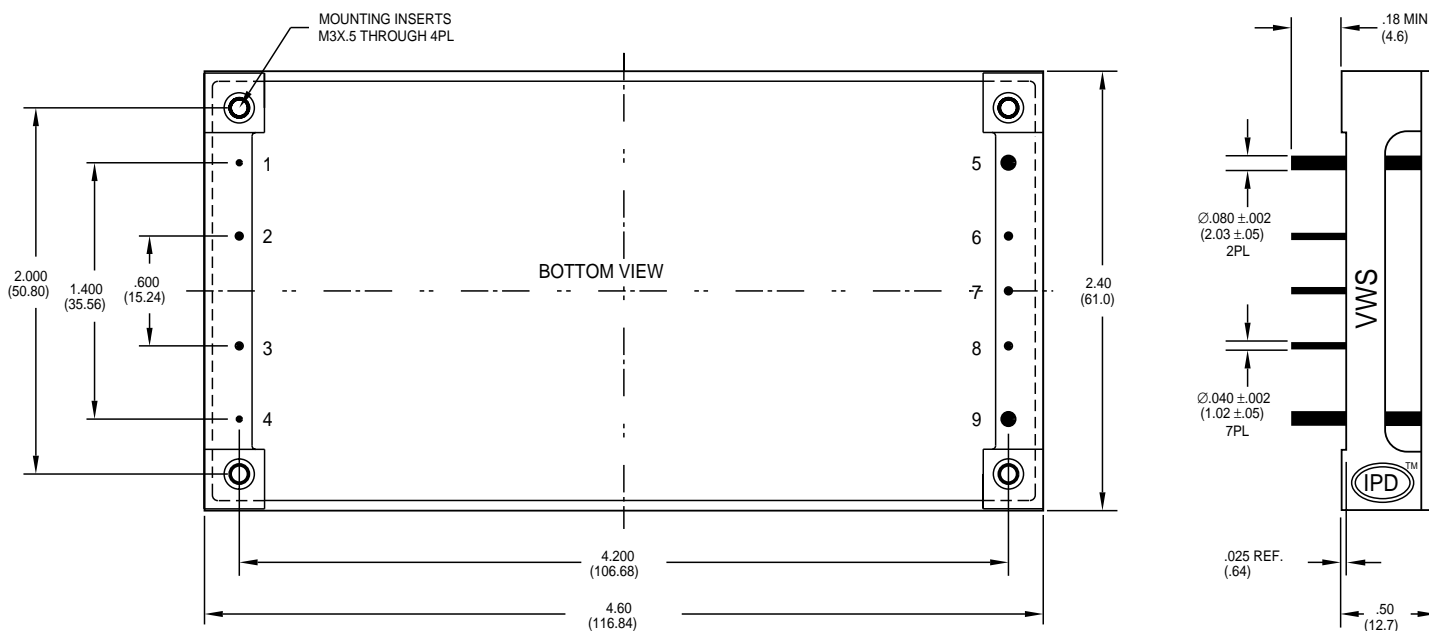
V <sub>IN</sub> (volts)	V <sub>IN</sub> range (volts)	I <sub>IN</sub> max.* (amps)	V <sub>OUT</sub> (volts)	I <sub>OUT</sub> rated (amps)	ripple & noise pk-pk (mV)	efficiency typ.**	model
24	18 - 36	21.0	12	20.8	120	81%	VWS250YH-A
24	18 - 36	21.0	15	16.7	150	81%	VWS250YJ-A
24	18 - 36	21.0	24	10.4	200	82%	VWS250YK-A
24	18 - 36	21.0	28	8.9	200	82%	VWS250Y28-A
24	18 - 36	21.0	48	5.2	200	83%	VWS250Y48-A
48	36 - 72	10.5	12	25.0	120	84%	VWS300ZH-A
48	36 - 72	10.5	15	20.0	150	84%	VWS300ZJ-A
48	36 - 72	10.5	24	12.5	200	85%	VWS300ZK-A
48	36 - 72	10.5	28	10.7	200	86%	VWS300Z28-A
48	36 - 72	10.5	48	6.25	200	87%	VWS300Z48-A

\* max input current at minimum input voltage, maximum rated output power

\*\* at nominal V<sub>IN</sub>, rated output.

specifications are subject to change without notice  
consult factory for VWB booster modules

## m e c h a n i c a l d r a w i n g



t h e r m a l i m p e d a n c e	
natural convection	5.4 °C/W
100 LFM	3.8 °C/W
200 LFM	2.5 °C/W
300 LFM	1.7 °C/W
400 LFM	1.6 °C/W

Thermal impedance data is dependant on many environmental factors. The exact thermal performance should be validated for specific application.

p i n	f u n c t i o n
1	-V <sub>IN</sub>
2	gate out
3	gate in
4	+V <sub>IN</sub>
5	-V <sub>OUT</sub>
6	-sense
7	trim
8	+Sense
9	+V <sub>OUT</sub>

t o l e r a n c e s (unless otherwise specified)	
<b>Inches</b>	<b>(Millimeters)</b>
.XX ± .020	.X ± 0.5
.XXX ± .010	.XX ± .25
<b>Pin:</b>	
± .002	± .05