XWD DC-DC Series Data Sheet
Dual-Output, 180 Watts

power-one™ Changing the Shape of Power

Features

- High power package
- Wide input range
- Trim and enable
- Remote Sense Pins
- 500V Isolation

Description

XWD dual-output dc-dc converters are high powered converters that cover a wide range of applications. Available input voltages include 12V, 24V, 40V, and 48V. Output voltages are available from 5V to 15V. The XWD features remote sense leads for accurate point of load regulation. For single and triple-output high power solutions, see the XWS and XWT Series of converters.

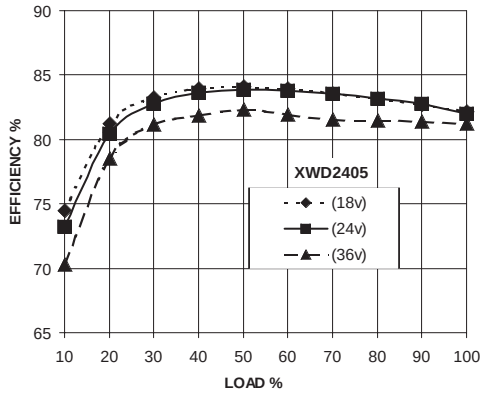
Technical Specifications

Input	
Voltage Range	
12 VDC Nominal	10 - 20 VDC
24 VDC Nominal	18 - 36 VDC
48 VDC Nominal	36 - 72 VDC
40 VDC Nominal (Wide Input)	20 - 60 VDC
Input Ripple Current	20% I_{in} Max.
Reverse Input Current	100% I_{in} Max.

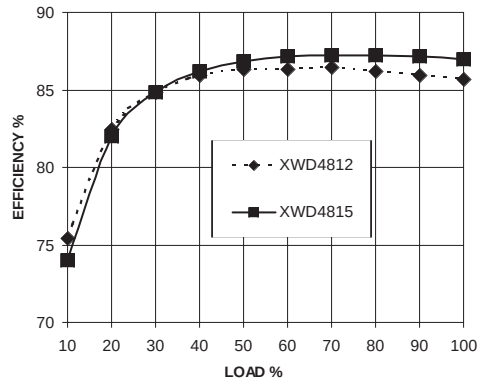
Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	±1% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	±1% V_{out}
Minimum Output Current	10 %
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	4% V_{out}
Settling Time	500 µs
Voltage Trim Range	±10%

General	
Turn-On Time	10 ms
Remote Shutdown	Positive Logic
Switching Frequency	200 kHz
Isolation	
Input - Output	500 VDC
Temperature Coefficient	±0.02%/°C
Case Temperature	
Operating Range	-25 To +85°C ††
Storage Range	-40 To +125°C
Thermal Shutdown Range	105 - 115°C
Humidity Max., Non-Condensing	95%
Vibration, 3 Axes, 5 Min Each	5 g, 10 - 55 Hz
MTBF† (Bellcore TR-NWT-000332)	Consult Factory
Safety	Consult Factory
Weight (Approx.)	15.4 oz

Efficiency vs. Load (24V Input)



Efficiency vs. Load (48V Input)



Notes

† MTBF predictions may vary slightly from model to model.
†† Industrial temp range of -40 to +85° C available.

Specifications typically at 25°C, normal line, and full load, unless otherwise stated.

Soldering Conditions: I/O pins, 260°C, ten seconds; fully compatible with commercial wave-soldering equipment.

Safety: Fusing Recommended.

+ See following two pages for Terminal Strip Option

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Model Selection

MODEL	INPUT VOLTAGE (VOLTS)	INPUT VOLTAGE RANGE (VOLTS)	MAXIMUM INPUT CURRENT (AMPS)*	OUTPUT VOLTAGE (VOLTS)	RATED OUTPUT CURRENT (AMPS)	RIPPLE & NOISE pk-pk (mV)	TYPICAL EFFICIENCY**
XWD1205	12	10-20	14.0	±5	±10	50	79%
XWD1212TS	12	10-20	16.9	±12	±5.2	120	81%
XWD1215	12	10-20	16.7	±15	±4.15	150	82%
XWD2405	24	18-36	11.3	±5	±15	50	82%
XWD2412	24	18-36	13.3	±12	±7.5	120	83%
XWD2415	24	18-36	13.3	±15	±6	150	83%
XWD4805	48	36-72	5.5	±5	±15	50	84%
XWD4812	48	36-72	6.5	±12	±7.5	120	85%
XWD4815	48	36-72	6.5	±15	±6	150	85%
XWD6005	40	20-60	10.3	±5	±15	50	80%
XWD6012	40	20-60	12.2	±12	±7.5	120	81%
XWD6015	40	20-60	12.2	±15	±6	150	81%

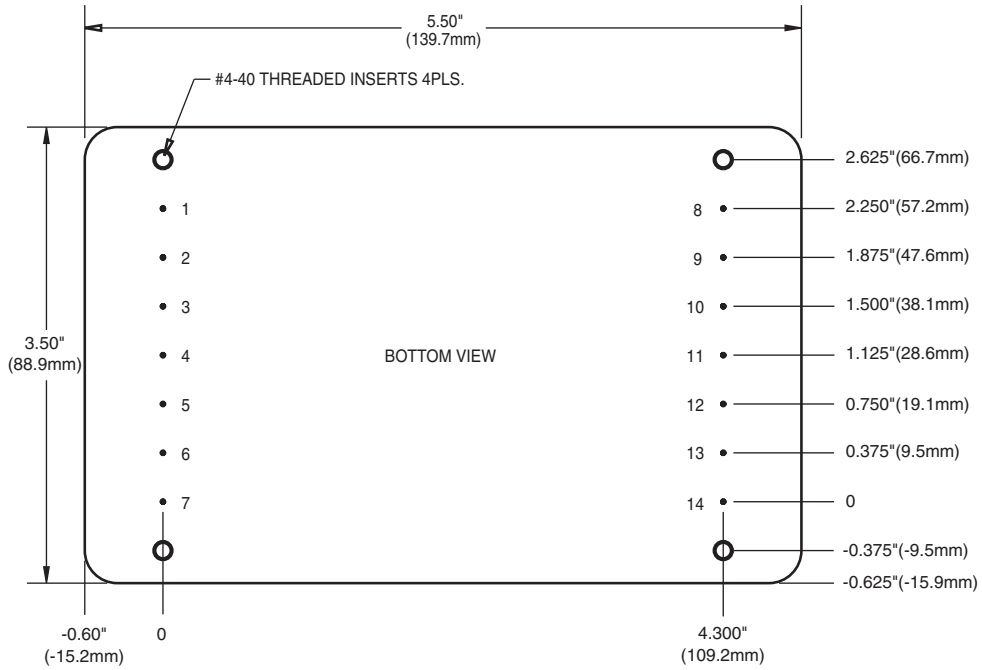
NOTES:

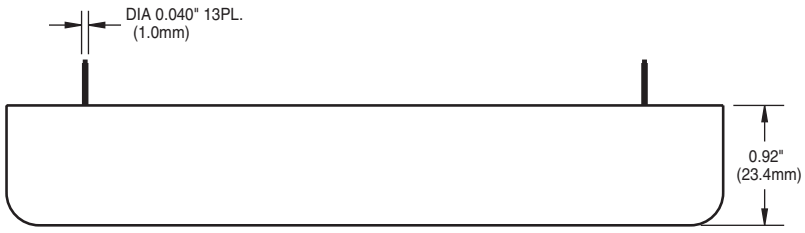
* Maximum input current at minimum input voltage, maximum rated output power.

** At nominal V_{in}, rated output.

Model numbers highlighted in yellow or shaded are not recommended for new designs.

Mechanical Drawing





Thermal Impedance

Natural convection	2.5 °C/W
100 LFM	2.1 °C/W
200 LFM	1.7 °C/W
300 LFM	1.3 °C/W
400 LFM	1.1 °C/W

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

Pin	Function
1	No Pin
2	$-V_{in}$
3	$-V_{in}$
4	$+V_{in}$
5	$+V_{in}$
6	Enable
7	Case
8	-V1 Sense
9	$-V1_{out}$
10	$+V1_{out}$
11	+V1 Sense1
12	$-V2_{out}$
13	Trim
14	$+V2_{out}$

Tolerances	
Inches:	(Millimeters)
.XX ± 0.040	.X ± 1.0
.XXX ± 0.010	.XX ± 0.25
Pin:	
± 0.002	± 0.05

(Dimensions as listed unless otherwise specified.)

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This page is offered as a reference. Consult factory for actual availability of options. When ordering equipment options, use the following suffix information. Select preferred option(s) and add the suffix to the model number. Ordering option examples are located below the options table.

OPTION	SUFFIX	APPLICABLE SERIES	REMARKS
Negative Logic	N	HAS, HBD, HBS, HES, HLS, HLD, LES, QBS, QES, QLS, TES, TQD	TTL "Low" Turns Module ON TTL "High" Turns Module OFF
Lucent-Compatible Trim	T	HAS, HBD, HBS, HES, HLS, QBS, QES, QLS	
Trim	1	IAS, LES	
Enable	2	IAD, IAS, LES, SMS	
Trim and Enable	3	IAS, LES	
Pin Length and Heat Sink Options			Standard Pin Length is 0.180" (4.6mm)
0.110" (2.8mm) Pin Length	8	All Leaded Models	
0.150" (3.8mm) Pin Length	9	All Leaded Models	
0.24" (6.1mm) Horizontal Heat Sink	1H	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad
0.24" (6.1mm) Vertical Heat Sink	1V	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heat Sink	2H	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Vertical Heat Sink	2V	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heat Sink	3H	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Vertical Heat Sink	3V	All 1/4-Bricks, 1/2-Bricks, 3/4-Bricks, Full-Bricks (Except HLS, HLD, QLS, TLD, and TKD Packages)	Includes Thermal Pad

Example Options:

HBS050ZG-ANT3V = HBS050ZG-A with negative logic, Lucent-compatible trim, and 0.95” vertical heat sink.
LES015YJ-3N = LES015YJ with optional trim and enable, negative logic.
QBS066ZG-AT8 = QBS066ZG-A with Lucent-compatible trim and 0.110” pin length.

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