

Description

EWD dual-output DC/DC converters offer excellent regulation and isolation in an industry-standard package. Available in several input versions, the EWD is perfect for industrial, datacom, or telecom applications. The EWD features short-circuit protection, six-sided shielding, and 500 VDC isolation. Please see the EWS series for single-output applications.



Technical Specifications

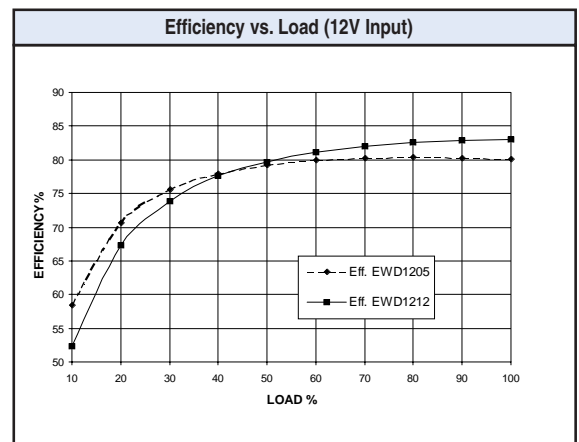
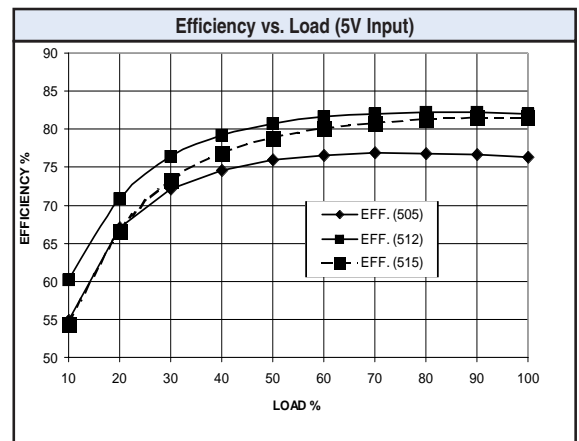
Input	
Voltage Range	4.5 - 9 VDC
5 VDC Nominal	9 - 18 VDC
12 VDC Nominal	20% I_{in} Max.
Reflected Ripple	100% I_{in} Max.
Reverse Input Current	

Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	±1.0% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	±1.0% V_{out}
Minimum Output Current	10% I_{out} Rated
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	1% V_{out}
Settling Time	500 ms
Temperature Coefficient	0.02%/°C
Ripple and Noise, 20 MHz BW	1% V_{out} nom.
Short Circuit Protection ¹	Hiccup
Current Limit	130%

General	
Switching Frequency	200 kHz
Isolation	
Input - Output	500 VDC
Isolation Resistance - Input to Output	10^9 Ohms
Standard Case Operating Range	-25 To +85°C
Industrial Range (Add -I To P/N)	-40 To +85°C
Storage Range	-40 To +125°C
Humidity Max., Non-Condensing	95%
Vibration, 3 Axes, 5 Min. each	5 g, 10 - 55 Hz
Safety	UL, cUL, TUV
Weight (Approx.)	1.4 oz

Features

- Industry-standard package
- Industry-Standard Pinout
- 85°C case operation
- Short-circuit protection
- 5V and 12V inputs
- Input pi filter
- 6-sided shielding
- Regulated outputs
- 500V isolation



Notes
¹ Converter will auto-restart once fault has been removed.
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: Agency approvals may vary from model to model. Please consult factory for specific model information.

Model Selection

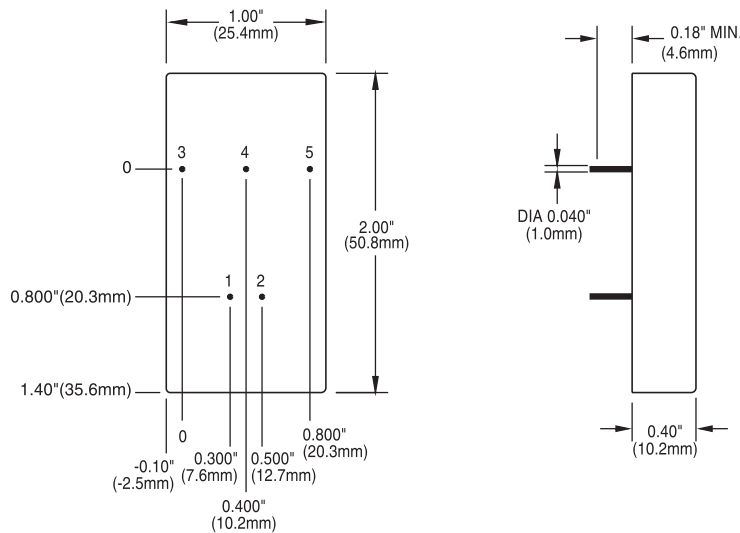
MODEL	INPUT VOLTAGE (VOLTS)	INPUT VOLTAGE RANGE (VOLTS)	MAXIMUM INPUT CURRENT (AMPS)*	OUTPUT VOLTAGE (VOLTS)	RATED OUTPUT CURRENT (AMPS)	RIPPLE & NOISE pk-pk (mV)	TYPICAL EFFICIENCY**
EWD505	5	4.5 - 9	1.64	±5	±0.50	50	72%
EWD512	5	4.5 - 9	1.85	±12	±0.25	120	81%
EWD515	5	4.5 - 9	1.85	±15	±0.20	150	81%
EWD1205	12	9 - 18	0.69	±5	±0.50	50	80%
EWD1212	12	9 - 18	0.75	±12	±0.25	120	82%

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



BOTTOM VIEW

Thermal Impedance	
Natural convection	15.4 °C/W
100 LFM	12.2 °C/W
200 LFM	9.3 °C/W
300 LFM	7.4 °C/W
400 LFM	6.4 °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	+ V_{in}
2	- V_{in}
3	+ V_{out}
4	Common
5	- V_{out}

Tolerances	
Inches:	(Millimeters)
.XX ± 0.040	.X ± 1.0
.XXX ± .010	.XX ± 0.25
Pin:	
± 0.002	± 0.05
Case:	
+ 0.04, - 0.00	+ 1.0, - 0.0
(Tolerances as listed unless otherwise specified.)	

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 Heatsink 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 Heatsink	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 Heatsink	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 Heatsink	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 Heatsink	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 Heatsink	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 Heatsink	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 heatsink.

LES015YJ-3N = LES015YJ with optional trim and enable, negative logic.

QBS066ZG-AT8 = QBS066ZG-A with Lucent-compatible trim and 0.110" pin length.

NUCLEAR AND MEDICAL APPLICATIONS - Power-One products are not authorized for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the respective divisional president of Power-One, Inc.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.