



EWS SERIES 5 WATT



DESCRIPTION

EWS DC/DC converters offer excellent regulation and isolation in an industry standard package. Available in 5V or 12V input versions, the EWS is ideal for industrial, datacom, or telecom applications. The EWS features short circuit protection, six-sided shielding, and 500 VDC isolation. Please see the EWD series for dual output applications.

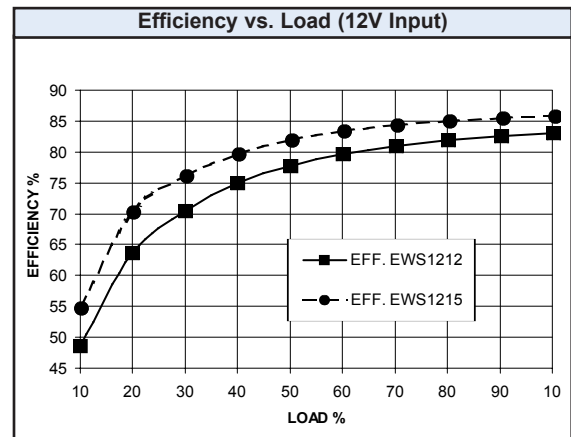
FEATURES

- Industry Standard Package
- Industry Standard Pinout
- 85°C Case Operation
- Short Circuit Protection
- 5V and 12V Inputs
- Input Pi Filter and 6-Sided Shielding
- Regulated Outputs
- 500V Isolation

TECHNICAL SPECIFICATIONS

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

Output	
Setpoint Accuracy	±5%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	±1.5% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	±2.5% V_{out}
Minimum Output Current	10%
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	1% V_{out}
Settling Time	500 μ s
Temperature Coefficient	0.02%/°C
Ripple And Noise, 20 MHz BW	150 mV
Short Circuit Protection ¹	Continuous
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
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.

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.	



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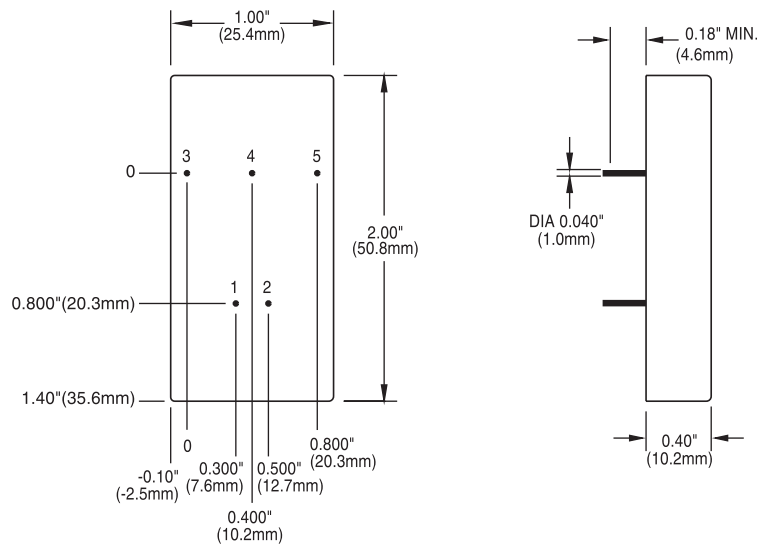
MODELS - (See the last page of Section for options.)

Selection Chart							
Model	V _{in} (Volts)	V _{in} Range (Volts)	I _{in} Max.* (Amps)	V _{out} (Volts)	I _{out} Rated (Amps)	Ripple & Noise Pk-Pk (mV)	Efficiency Typ. **
EWS0505	5	4.5 - 9.0	1.80	5	1.00	150	70%
EWS0512	5	4.5 - 9.0	2.10	12	0.50	150	73%
EWS1205	12	9.0 - 18.0	0.85	5	1.00	150	73%
EWS1212	12	9.0 - 18.0	0.95	12	0.50	150	80%
EWS1215	12	9.0 - 18.0	0.91	15	0.40	150	82%

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

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

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	-V _{out}

Tolerances	
Inches:	(Millimeters)
.XX ± 0.040	.X ± 1.0
.XXX ± 0.010	.XX ± 0.25
Pin:	
± 0.002	± 0.05
Case:	
+0.04, -0.00	+1.0, -0.0

(Dimensions as listed unless otherwise specified.)

High Density - Board Mounted Power Division



OPTIONS

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When ordering equipment options, use the following suffix information. Select the option(s) that you prefer and add them to the model number. Example ordering options are located below the options table.

OPTIONS	SUFFIX	APPLICABLE SERIES	REMARKS
Negative Logic	N	HAS, HBD, HBS, HES, HLS, 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	
Terminal Strip	TS	XWS, XWD, XWT	
Trim	1	IAS, LES	
Enable	2	IAD, IAS, LES, SMS	
Trim and Enable	3	IAS, LES	
Current Share	4	SMS	
Headerless	Y	Encapsulated EWS, IWS, OWS	
PIN LENGTH AND HEATSINK OPTIONS			Standard Pin Length is 0.180" (4.6mm)
0.110" (2.8mm) Pin Length	8	All Units (Except SMS)	
0.150" (3.8mm) Pin Length	9	All Units (Except SMS)	
0.24" (6.1mm) Horizontal Heatsink	1H	All Units (Except DIP, HLS, HLD, QLS, SIP, SM TLD, and TKD Packages)	Includes Thermal Pad
0.24" (6.1mm) Vertical Heatsink	1V	All Units (Except DIP, HLS, HLD, QLS, SIP, SM TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heatsink	2H	All Units (Except DIP, HLS, HLD, QLS, SIP, SM TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Vertical Heatsink	2V	All Units (Except DIP, HLS, HLD, QLS, SIP, SM TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heatsink	3H	All Units (Except DIP, HLS, HLD, QLS, SIP, SM TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Vertical Heatsink	3V	All Units (Except DIP, HLS, HLD, QLS, SIP, SM 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 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.