

**Features**

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

**Description**

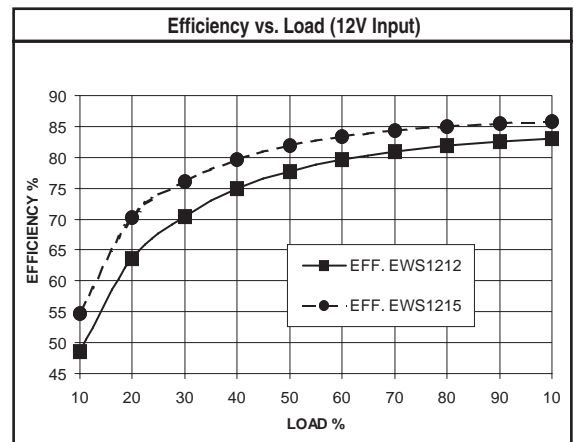
EWS dc-dc converters offer excellent regulation and isolation in an industry-standard package. The EWS Series is ideal for industrial, datacom, or telecom applications. The EWS Series features short-circuit protection, six-sided shielding, and 500 VDC isolation. Please see the EWD Series for dual-output 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	±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 $\mu$ s
Temperature Coefficient	0.02%/°C
Ripple And Noise, 20 MHz BW	150 mV
Short Circuit Protection <sup>1</sup>	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
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.



Notes
<sup>1</sup> 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**
<b>EWS505</b>	5	4.5 - 9	1.80	5	1.0	150	70%
<b>EWS512</b>	5	4.5 - 9	2.10	12	0.5	150	73%
<b>EWS1205</b>	12	9 - 18	0.85	5	1.0	150	73%
<b>EWS1215</b>	12	9 - 18	0.91	15	0.4	150	82%

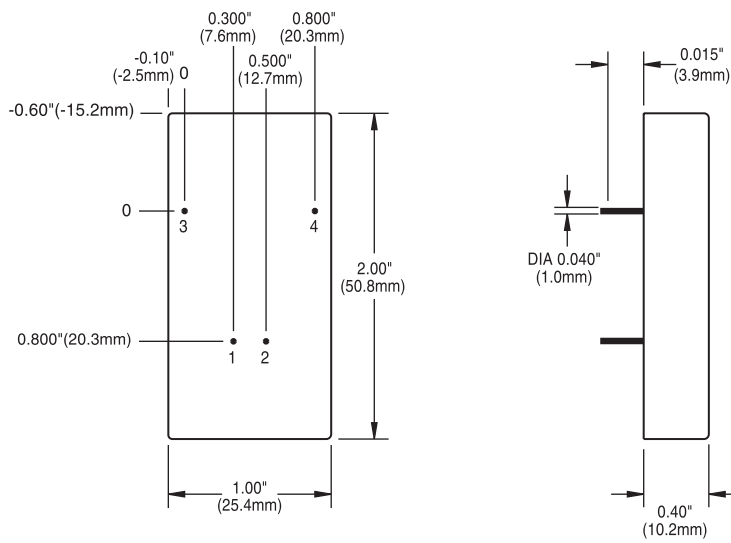
**NOTES:**

\* 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	- $V_{out}$

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.)

NUCLEAR AND MEDICAL APPLICATIONS - Power-One products are not designed, intended for use in, or 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.