



**Description**

OWS single-output dc-dc converters provide up to 25 watts of output power in an industry-standard package and footprint. The OWS features excellent efficiency, six-sided shielding, and a fixed switching frequency. With 85 °C case operation, the OWS is especially suited to telecom, networking, and industrial applications. These units are fully compatible with production board washing processes.

**Technical Specifications**

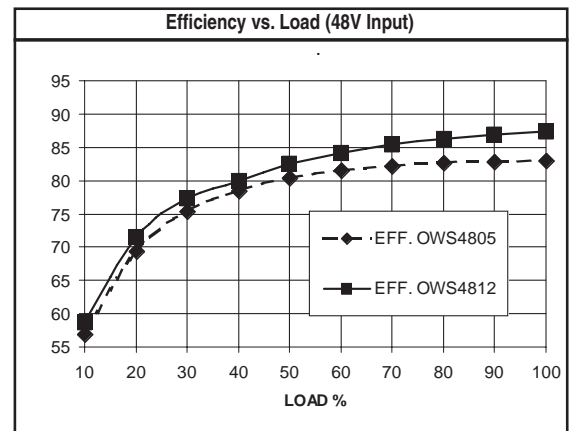
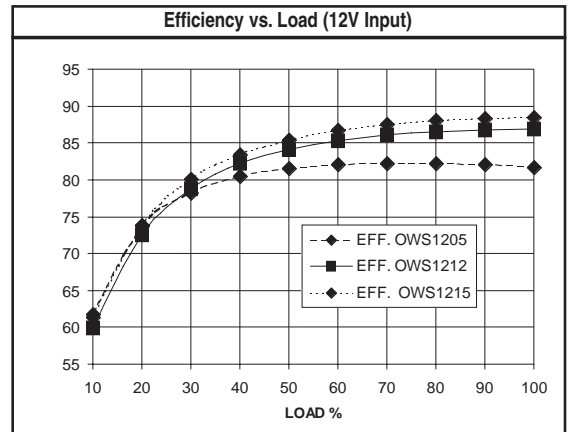
Input	
Voltage Range	10 - 20 VDC 20 - 60 VDC
12 VDC Nominal	
48 VDC Nominal	
Input Reverse Voltage Protection	Shunt Diode
Input Ripple Current	20% $I_{in}$ Max.
Reverse Input Current	100% $I_{in}$ Max.

Output	
Setpoint Accuracy	$I_{in} \pm 1\%$
Line Regulation $V_{in}$ Min. - $V_{in}$ Max., $I_{out}$ Rated	$\pm 1\% V_{out}$
Load Regulation $I_{out}$ Min. - $I_{out}$ Max., $V_{in}$ Nom.	$\pm 1\% V_{out}$
Minimum Output Current	10 %
Dynamic Regulation, Loadstep	25% $I_{out}$
Pk Deviation	1% $V_{out}$
Settling Time	500 $\mu$ s
Voltage Trim Range	$\pm 10\%$
Short Circuit / Overcurrent Protection	Continuous
Current Limit Threshold Range, % of $I_{out}$ Rated	110% - 130%

General	
Remote Shutdown	Positive
Remote Shutdown Reference	$V_{in}$ Negative
Switching Frequency	300 kHz
Isolation	
Input - Output	500 VDC
Temperature Coefficient	0.02%/°C
Case Temperature	
Operating Range	-25 To +85 °C <sup>1</sup>
Storage Range	-40 To +125 °C
Humidity Max., Non-Condensing	95%
Vibration, 3 Axes, 5 min. each	5 g, 10 - 55 Hz
MTBF <sup>†</sup> (Bellcore TR-NWT-000332)	1.8 X 10 <sup>6</sup> hrs
Safety	UL1950, CSA22.2-950, EN60950
Weight (Approx.)	1.9 oz

**Features**

- Industry-standard package
- 12 V and 48 V input versions
- 25 W output
- 85 °C case operation
- Trim and enable pins
- Fixed frequency
- 500 V isolation
- Wide input range



Notes
<sup>1</sup> Industrial temperature range of -40 to +85 °C available; add suffix -I to P/N.
<sup>†</sup> MTBF predictions may vary slightly from model to model.
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

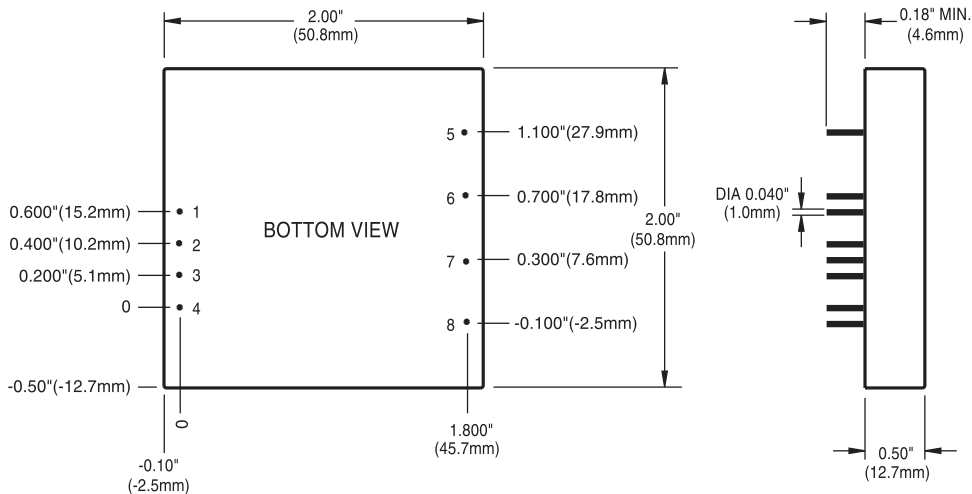
MODEL	INPUT VOLTAGE (VOLTS)	INPUT VOLTAGE RANGE (VOLTS)	MAXIMUM INPUT CURRENT (AMPS)*	OUTPUT VOLTAGE (VOLTS)	RATED OUTPUT CURRENT (AMPS)	RIPPLE & NOISE pk-pk (mV)	TYPICAL EFFICIENCY**
OWS1205	12	10 - 20	3.50	5	5.00	50	80%
OWS1212	12	10 - 20	3.50	12	2.10	120	83%
OWS1215	12	10 - 20	3.50	15	1.65	150	84%
OWS4805	48	20 - 60	1.80	5	5.00	50	80%
OWS4812	48	20 - 60	1.80	12	2.10	120	86%

**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	9.7 °C/W
100 LFM	7.3 °C/W
200 LFM	5.9 °C/W
300 LFM	4.8 °C/W
400 LFM	3.8 °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 <sub>in</sub>
2	-V <sub>in</sub>
3	No Conn
4	Enable
5	No Pin
6	+V <sub>out</sub>
7	-V <sub>out</sub>
8	Trim

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, - 0.00	
(Dimensions as listed unless otherwise specified.)	

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