OBD SERIES - DUAL OUTPUT, 25 WATT

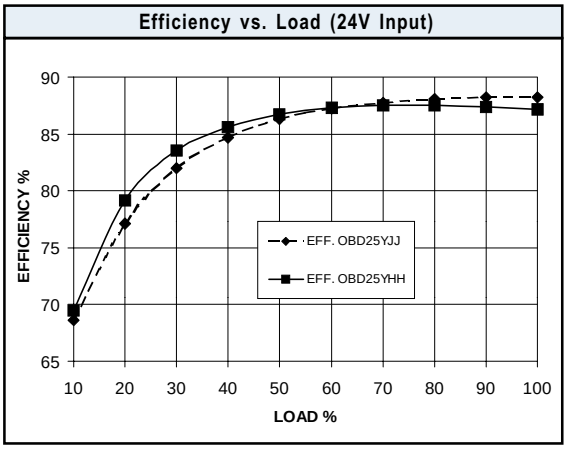
DESCRIPTION

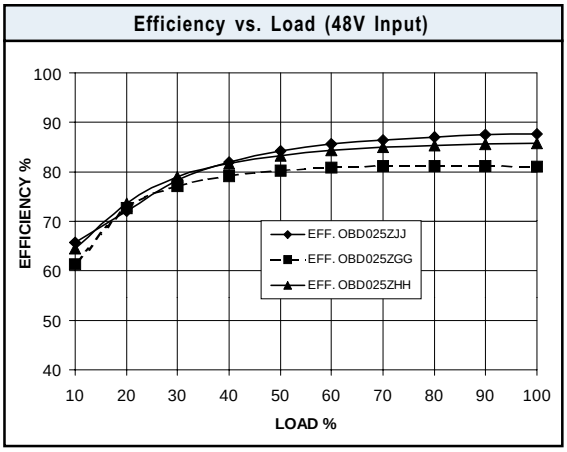
OBD dual output DC/DC converters provide up to 25 Watts of output power in an industry standard package and footprint. These units feature excellent efficiency, six-sided shielding, and fixed switching frequency. With 100°C case operation, the OBD units are especially suited to telecom, networking, and industrial applications. These units are 100% surface-mount construction and fully compatible with production board washing processes.



FEATURES

- Industry Standard Package
- 48V Input
- Fixed-Frequency Design
- 100°C Case Operation
- Trim and Enable Pins
- Fixed Switching Frequency
- 1500V Isolation
- 6-Sided Shielding





TECHNICAL SPECIFICATIONS

Input	
Voltage Range	
48 VDC Nominal	34 - 75 VDC
Reflected Ripple	25 mA
Input Reverse Voltage Protection	Shunt Diode

Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	0.2% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	0.5% V_{out}
Minimum Output Current	10 % I_{out} Rated
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	4% V_{out}
Settling Time	500 µs
Voltage Trim Range	±10%
Short Circuit / Overcurrent Protection	Hiccup
Current Limit Threshold Range, % of I_{out} Rated	110 - 140%
OVP Trip Range	115 - 140% V_{out} Nom.
OVP and UVP Type	Second Control Loop

General	
Turn-On Time: 24 & 48V Input	10 ms
Remote Shutdown	Positive
Remote Shutdown Reference	V_{in} Negative
Switching Frequency	400 kHz
Isolation	
Input - Output	1500 VDC
Input - Case (12 V_{in} and 24 V_{in} units)	1050 VDC
Output - Case (48 V_{in} units)	500 VDC
Temperature Coefficient	0.03%/°C
Case Temperature	
Operating Range (12V Input Max. Temp +85°C)	-40 to +100°C
Storage Range	-40 to +125°C
Vibration, 3 Axes, 5 Min. Each	5 g, 10 - 55 Hz
MTBF† (Bellcore TR-NWT-000332)	1.9 x 10^6 hrs
Safety	UL, CUL, TUV
Weight (Approx.)	1.4 oz

Notes

† MTBF predictions may vary slightly from model to model.
†† Industrial temp range 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.

Units are water-washable and fully compatible with commercial spray or immersion post wave-solder washing equipment.

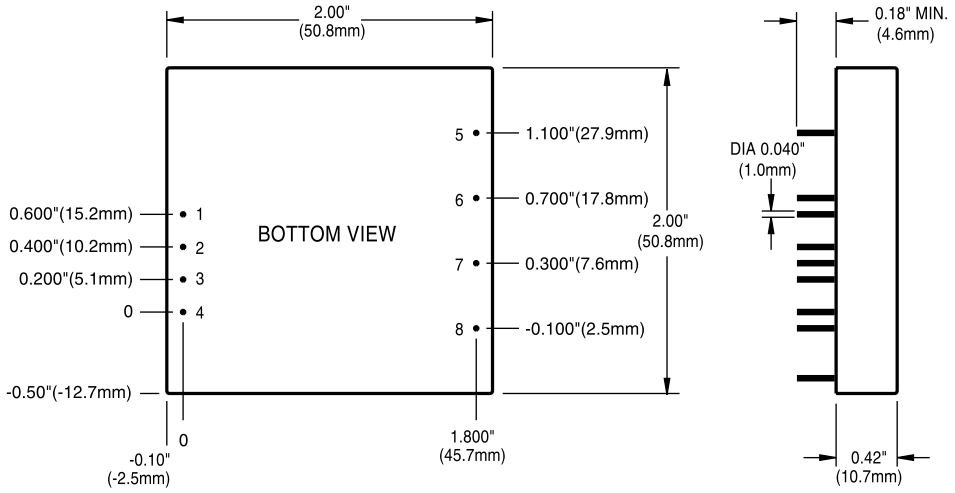
OBD SERIES - DUAL OUTPUT, 25 WATT

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

Vin (Volts)	Vin Range (Volts)	Iin Max.* (Amps)	Vout (Volts)	Iout Rated (Amps)	Ripple & Noise Pk-Pk (mV)	Efficiency Typ. **	Model
24	18 - 36	1.8	±5	±2.5	75	83%	OBD025YGG †
24	18 - 36	1.7	±15	±0.85	150	88%	OBD025YJJ †
48	36 - 75	0.93	±5	±2.5	75	80%	OBD025ZGG
48	36 - 75	0.91	±12	±1.0	120	86%	OBD025ZHH
48	36 - 75	0.91	±15	±0.85	150	88%	OBD025ZJJ †

† Denotes advanced product release. Consult factory for product availability.
* Maximum input current at minimum input voltage, maximum rated output power.
** At nominal Vin, rated output.

MECHANICAL DRAWING



Thermal Impedance	
Natural convection	10.3 °C/W
100 LFM	7.7 °C/W
200 LFM	6.3 °C/W
300 LFM	5.1 °C/W
400 LFM	4.1 °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	$+V_{in}$
2	$-V_{in}$
3	No Conn.
4	Enable
5	$+V_{out}$
6	Common
7	$-V_{out}$
8	Trim

Tolerances	
Inches:	(Millimeters)
.XX ± 0.020	.X ± 0.5
.XXX ± 0.010	.XX ± 0.25
Pin:	
± 0.002	± 0.05
Case:	
+ 0.04, - 0.00	+ 1.0, - 0.0

(Tolerances as listed unless otherwise specified.)

OPTIONS

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.

OPTION	SUFFIX	APPLICABLE SERIES	REMARKS
Negative Logic	N	HAS, HBD, HBS, HES, LES, QBS, QES, TES, TQD	TTL "Low" Turns Module ON TTL "High" Turns Module OFF
Lucent Compatible Trim	T	HAS, HBD, HBS, HES, QBS, QES	
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, SIP, and SM Packages)	Includes Thermal Pad
0.24" (6.1mm) Vertical Heatsink	1V	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heatsink	2H	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.45" (11.4mm) Vertical Heatsink	2V	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heatsink	3H	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.95" (24.1mm) Vertical Heatsink	3V	All Units (Except DIP, SIP, and SM 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.