WALL INDUSTRIES, INC.

DATA SHEET

VB SERIES — TO 3 WATTS

- Surface mount
- Efficiency up to 83%
- 2/1 input range (9 to 75 Vin)
- 1500VDC isolation
- Continuous short-circuit protection
- Tight line/load regulation
- Single and dual outputs
- MTBF > 1,000,000 hours minimum
- UL/CUL 1950 safety approval
- Water washable

This economically priced dc/dc converter offers 3 wide input ranges of 9-18, 18-36, and 36-75VDC. It is suitable for telecom, process control, battery backup, and other applications where tight line/load regulation is required.

MODELS

INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	EFFICIENCY (%)	MODEL NUMBER
12 (9 - 18)	3.3	700	75	VB12S3.3-2.3
	5	600	79	VB12S5-3
	12	250	82	VB12S12-3
	15	200	82	VB12S15-3
	±5	±300	78	VB12D5-3
	±12	±125	81	VB12D12-3
	±15	±100	81	VB12D15-3
24 (18 - 36)	3.3	700	76	VB24S3.3-2.3
	5	600	80	VB24S5-3
	12	250	83	VB24S12-3
	15	200	83	VB24S15-3
	±5	±300	79	VB24D5-3
	±12	±125	82	VB24D12-3
	±15	±100	82	VB24D15-3
48 (36 - 75)	3.3	700	76	VB48S3.3-2.3
	5	600	80	VB48S5-3
	12	250	83	VB48S12-3
	15	200	83	VB48S15-3
	±5	±300	79	VB48D5-3
	±12	±125	82	VB48D12-3
	±15	±100	82	VB48D15-3

8/2/2006

SPECIFICATIONS

All specifications apply at 25ºC unless otherwise noted.

SPECIFICATION	VALUE
INPUT	
Input Voltage Range	9-18, 18-36, 36-75
Input Filter	Pi Filter
OUTPUT	
Output Current	see model information table
Voltage Accuracy	±0.5% typ., 1.0% max.
Line Regulation (HL-LL)	±0.3% max.
Load Regulation (10-100% load)	±0.3% typ., 1.0% max.
Short Circuit Protection	continuous
Ripple/Noise (20MHz BW)	75 mV p-p max.
Transient Response	200 uS typ., 500uS max.
GENERAL	
Efficiency	see model information table
Isolation Voltage (input to output)	1500 VDC
Isolation Resistance (500 VDC)	1000 M Ohms
Switching Frequency	300 kHz typ.
ENVIRONMENTAL	
Operating Temperature (ambient)	-40°C to +71°C (case 90°C)
Storage Temperature	-40°C to +125°C
Humidity (non-condensing)	95% max.
Cooling	free air convection
PHYSICAL	
Dimensions	1.27 x 0.74 x 0.4 inches
Weight	5.75 grams
Case Material	non-conductive black plastic
Flammability	UL94V-0

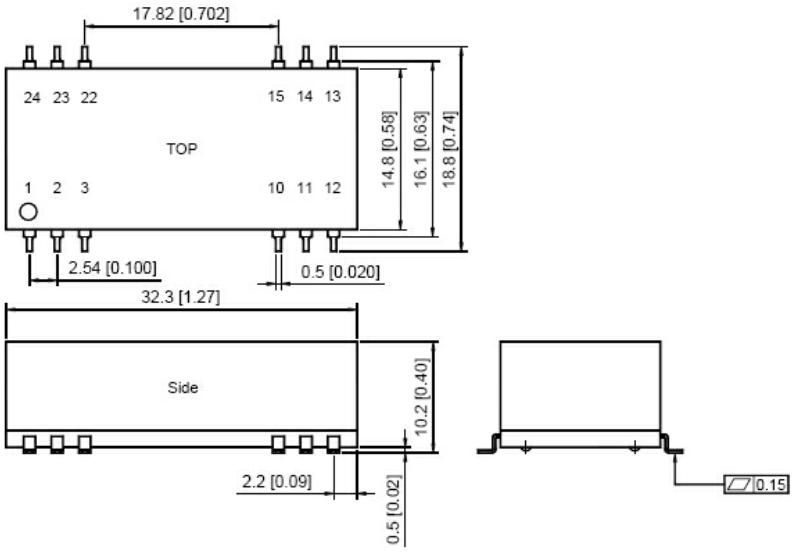
due to advances in technology, specifications subject to change without notice.

NOTES

1) Efficiency (%) measured at maximum load.
2) These converters require a minimum load to maintain specified regulation.
3) All dc/dc converters should be externally fused at the input side for protection, consult factory for more information.
4) Other input and output voltages may be available, please consult factory for more information.
5) Specifications subject to change without notice.
6) Operation under no-load conditions will NOT damage these converters however they may not meet all listed specifications under such conditions.
7) Transient recovery time is measured to within 1% error band for a step change in output load of 75% to 100%.

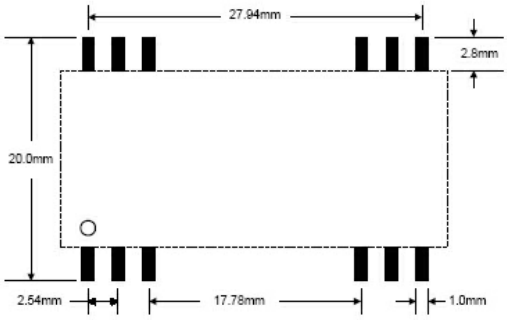
8/2/2006

Mechanical Dimensions



Connecting Pin Patterns

Top View (2.54 mm / 0.1 inch grids)



Tolerance	Millimeters	Inches
	X.X±0.25	X.XX±0.01
	X.XX±0.13	X.XXX±0.005
Pin	±0.05	±0.002

Pin Connections

Pin	Single Output	Dual Output
1	−Vin	−Vin
2	−Vin	−Vin
3	NC	NC
10	NC	Common
11	NC	NC
12	NC	−Vout
13	+Vout	+Vout
14	NC	NC
15	−Vout	Common
22	NC	NC
23	+Vin	+Vin
24	+Vin	+Vin

NC: No Connection

Physical Characteristics

Case Size	:	32.3×14.8×10.2 mm 1.27×0.58×0.40 inches
Case Material	:	Non−Conductive Black Plastic
Weight	:	5.75g
Flammability	:	UL94V−0

Units are encapsulated in a low thermal resistance molding compound that has excellent resistance/electrical characteristics over a wide temperature range or in high humidity environments. The encapsulant and unit case are both rated to UL 94V-0 flammability specifications. Leads are tin plated for improved solderability.

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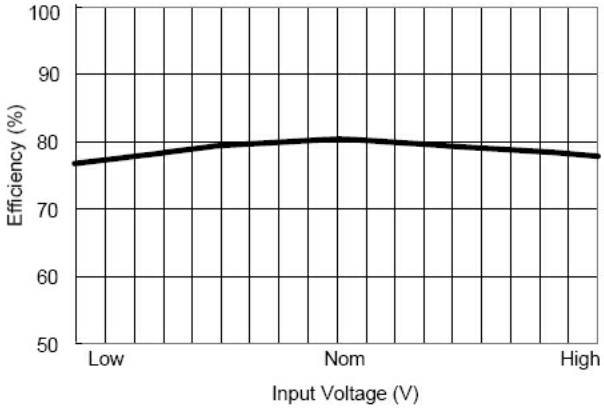
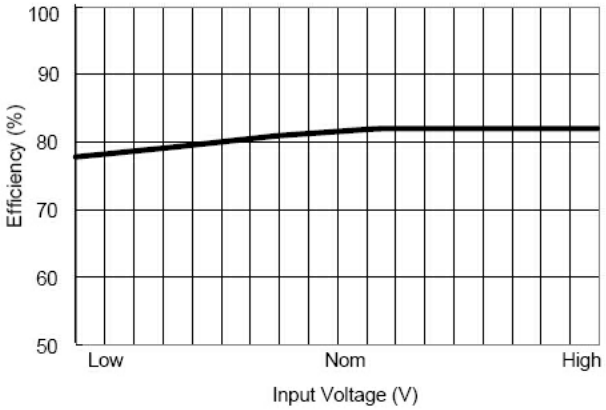
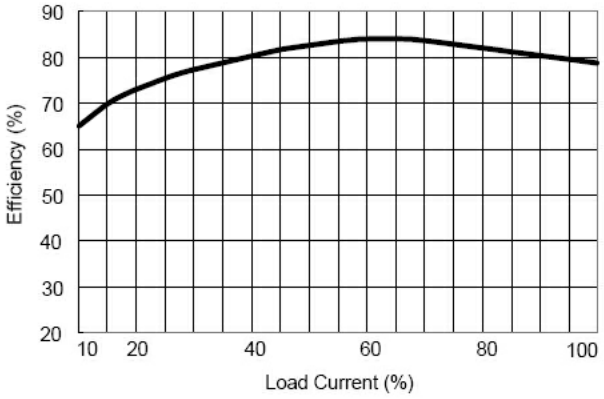


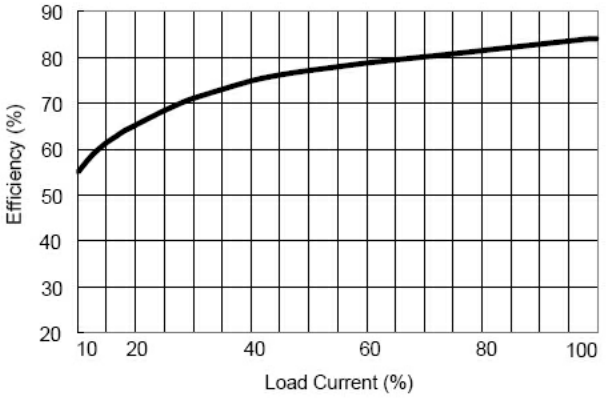
Efficiency vs Input Voltage (Single Output)



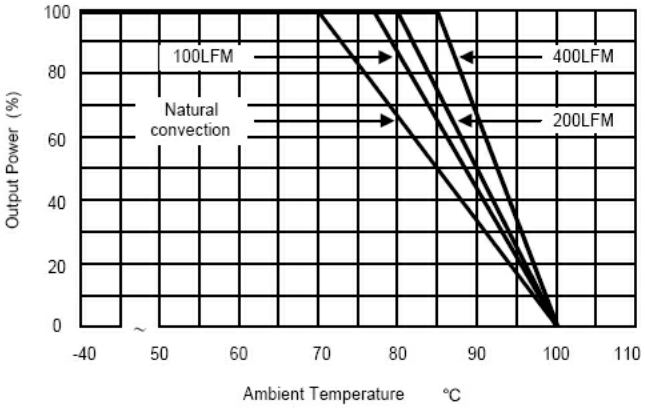
Efficiency vs Input Voltage (Dual Output)



Efficiency vs Output Load (Single Output)



Efficiency vs Output Load (Dual Output)



Derating Curve

Input Fuse Selection Guide

12V Input Models	24V Input Models	48V Input Models
750mA Slow – Blow Type	350mA Slow – Blow Type	200mA Slow – Blow Type

Input Voltage Transient Rating