Wall Industries, Inc.

DATASHEET
Rev. E

LANEH SERIES

3.3, 5, 9, 12, 15, 24, & 48VDC Nominal Input Voltages
Two Package Sizes Available
3000VDC I/O Isolation, Non-regulated Single & Dual Outputs
1 Watt DC/DC Power Converters

FEATURES

- 1 Watt Output Power
- Recognized by UL 60950-1
- RoHS Compliant
- Non-regulated Single and Dual Outputs
- Two Package Sizes Available
- Industry Standard Pin-out
- High Efficiency up to 85%
- 3000VDC I/O Isolation
- No External Components Needed
- Free Air Convection
- Internal SMD Construction
- -40°C to +85°C Operating Temperature Range

DESCRIPTION

The LANEH series of DC/DC power converters provides 1 Watt of output power in a 7 pin SIP package. This series consists of non-regulated single and dual output models with 3000VDC I/O isolation and a -40°C to +85°C operating temperature range. All models in this series are recognized by UL 60950-1 and are RoHS compliant. This series has two package sizes available. Please call factory for more details.

SPECIFICATIONS: LANEH SERIES

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS		Min	Nom	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage Ranges			3.14	3.3	3.47	VDC
			4.75	5	5.25	
			8.55	9	9.45	
			11.4	12	12.6	
			14.25	15	15.75	
			22.8	24	25.2	
	See Note 1		45.6	48	50.4	
Input Filter			Capacitor			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Tolerance	Full load		-5		+5	%
Line Regulation	For 1% of Vin			1.2		%
Load Regulation	10% to 100% full load	3.3 & 5Vdc output models			15	%
		9, 12, 15, & 24Vdc output models			10	
Output Power					1	W
Output Current			See Table			
Ripple & Noise	20MHz Bandwidth				100	mVp-p
Transient Response Setting Time	50% load step change			350		µs
PROTECTION						
Short Circuit Protection	Short term				1	sec
GENERAL SPECIFICATIONS						
Efficiency	*See Note 2*		See Table			
Switching Frequency	Full load, nominal input			100		KHz
Isolation Voltage	Input to Output		3000			VDC
Isolation Resistance	500VDC		1000			MΩ
ENVIRONMENTAL SPECIFICATIONS						
Operating Ambient Temperature			-40		+85	°C
Storage Temperature			-40		+100	°C
Humidity	non-condensing				95	%
Cooling			Free air convection			
MTBF	MIL-HDBK-217F at 25°C		3,500,000 hours			
PHYSICAL SPECIFICATIONS						
Case Material			DAP			
Weight	Package 1		0.074oz (2.1g)			
	Package 2		0.095oz (2.7g)			
Dimensions (L x W x H)	Package 1		0.77 x 0.24 x 0.39 inches (19.5 x 6.0 x 10.0 mm)			
	Package 2		0.77 x 0.30 x 0.39 inches (19.5 x 7.62 x 10.0 mm)			

NOTES:
1. 48Vdc nominal input voltage models are only available in package 2 type.
2. As the input voltage increases there will be an increase in efficiency.
**Due to advances in technology, specifications subject to change without notice.*

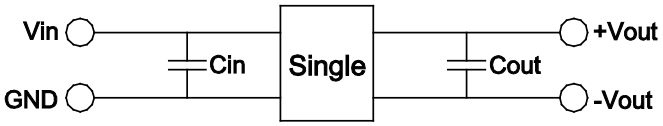
MODEL SELECTION TABLE					
SINGLE OUTPUT MODELS					
Model Number	**Input Voltage**	**Output Voltage**	**Output Current**	**Efficiency**	**Output Power**
LANE3333NH	3.3 VDC (3.14 – 3.47 VDC)	3.3 VDC	303mA	70%	1W
LANE3305NH		5 VDC	200mA	70%	1W
LANE3309NH		9 VDC	112mA	75%	1W
LANE3312NH		12 VDC	84mA	78%	1W
LANE3315NH		15 VDC	67mA	80%	1W
LANE3324NH		24 VDC	42mA	82%	1W
LANE533NH	5 VDC (4.75 – 5.25 VDC)	3.3 VDC	303mA	70%	1W
LANE505NH		5 VDC	200mA	70%	1W
LANE509NH		9 VDC	112mA	75%	1W
LANE512NH		12 VDC	84mA	78%	1W
LANE515NH		15 VDC	67mA	80%	1W
LANE524NH		24 VDC	42mA	82%	1W
LANE933NH	9 VDC (8.55 – 9.45 VDC)	3.3 VDC	303mA	70%	1W
LANE905NH		5 VDC	200mA	70%	1W
LANE909NH		9 VDC	112mA	75%	1W
LANE912NH		12 VDC	84mA	78%	1W
LANE915NH		15 VDC	67mA	80%	1W
LANE924NH		24 VDC	42mA	82%	1W
LANE1233NH	12 VDC (11.4 – 12.6 VDC)	3.3 VDC	303mA	70%	1W
LANE1205NH		5 VDC	200mA	70%	1W
LANE1209NH		9 VDC	112mA	75%	1W
LANE1212NH		12 VDC	84mA	78%	1W
LANE1215NH		15 VDC	67mA	80%	1W
LANE1224NH		24 VDC	42mA	82%	1W
LANE1533NH	15 VDC (14.25 – 15.75 VDC)	3.3 VDC	303mA	70%	1W
LANE1505NH		5 VDC	200mA	70%	1W
LANE1509NH		9 VDC	112mA	75%	1W
LANE1512NH		12 VDC	84mA	78%	1W
LANE1515NH		15 VDC	67mA	80%	1W
LANE1524NH		24 VDC	42mA	82%	1W
LANE2433NH	24 VDC (22.8 – 25.2 VDC)	3.3 VDC	303mA	70%	1W
LANE2405NH		5 VDC	200mA	70%	1W
LANE2409NH		9 VDC	112mA	75%	1W
LANE2412NH		12 VDC	84mA	78%	1W
LANE2415NH		15 VDC	67mA	80%	1W
LANE2424NH		24 VDC	42mA	82%	1W
LANE4805NH	48 VDC (45.6 – 50.4 VDC)	5 VDC	200mA	70%	1W
LANE4809NH		9 VDC	112mA	75%	1W
LANE4812NH		12 VDC	84mA	78%	1W
LANE4815NH		15 VDC	67mA	80%	1W
LANE4824NH		24 VDC	42mA	82%	1W

NOTE: 48Vdc nominal input voltage models are only available in package 2 type.

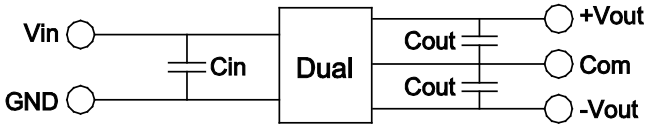
MODEL SELECTION TABLE					
DUAL OUTPUT MODELS					
Model Number	**Input Voltage**	**Output Voltage**	**Output Current**	**Efficiency**	**Output Power**
LANE3333NDH	3.3 VDC (3.14 – 3.47 VDC)	±3.3 VDC	±150mA	70%	1W
LANE3305NDH		±5 VDC	±100mA	70%	1W
LANE3309NDH		±9 VDC	±56mA	75%	1W
LANE3312NDH		±12 VDC	±42mA	78%	1W
LANE3315NDH		±15 VDC	±34mA	80%	1W
LANE3324NDH		±24 VDC	±21mA	82%	1W
LANE533NDH	5 VDC (4.75 – 5.25 VDC)	±3.3 VDC	±150mA	70%	1W
LANE505NDH		±5 VDC	±100mA	70%	1W
LANE509NDH		±9 VDC	±56mA	75%	1W
LANE512NDH		±12 VDC	±42mA	78%	1W
LANE515NDH		±15 VDC	±34mA	80%	1W
LANE524NDH		±24 VDC	±21mA	82%	1W
LANE933NDH	9 VDC (8.55 – 9.45 VDC)	±3.3 VDC	±150mA	70%	1W
LANE905NDH		±5 VDC	±100mA	70%	1W
LANE909NDH		±9 VDC	±56mA	75%	1W
LANE912NDH		±12 VDC	±42mA	78%	1W
LANE915NDH		±15 VDC	±34mA	80%	1W
LANE924NDH		±24 VDC	±21mA	82%	1W
LANE1233NDH	12 VDC (11.4 – 12.6 VDC)	±3.3 VDC	±150mA	70%	1W
LANE1205NDH		±5 VDC	±100mA	70%	1W
LANE1209NDH		±9 VDC	±56mA	75%	1W
LANE1212NDH		±12 VDC	±42mA	78%	1W
LANE1215NDH		±15 VDC	±34mA	80%	1W
LANE1224NDH		±24 VDC	±21mA	82%	1W
LANE1533NDH	15 VDC (14.25 – 15.75 VDC)	±3.3 VDC	±150mA	70%	1W
LANE1505NDH		±5 VDC	±100mA	70%	1W
LANE1509NDH		±9 VDC	±56mA	75%	1W
LANE1512NDH		±12 VDC	±42mA	78%	1W
LANE1515NDH		±15 VDC	±34mA	80%	1W
LANE1524NDH		±24 VDC	±21mA	82%	1W
LANE2433NDH	24 VDC (22.8 – 25.2 VDC)	±3.3 VDC	±150mA	70%	1W
LANE2405NDH		±5 VDC	±100mA	70%	1W
LANE2409NDH		±9 VDC	±56mA	75%	1W
LANE2412NDH		±12 VDC	±42mA	78%	1W
LANE2415NDH		±15 VDC	±34mA	80%	1W
LANE2424NDH		±24 VDC	±21mA	82%	1W
LANE4805NDH	48 VDC (45.6 – 50.4 VDC)	±5 VDC	±100mA	70%	1W
LANE4809NDH		±9 VDC	±56mA	75%	1W
LANE4812NDH		±12 VDC	±42mA	78%	1W
LANE4815NDH		±15 VDC	±34mA	80%	1W
LANE4824NDH		±24 VDC	±21mA	82%	1W

NOTE: 48Vdc nominal input voltage models are only available in package 2 type.

RECOMMENDED TEST CIRCUITS



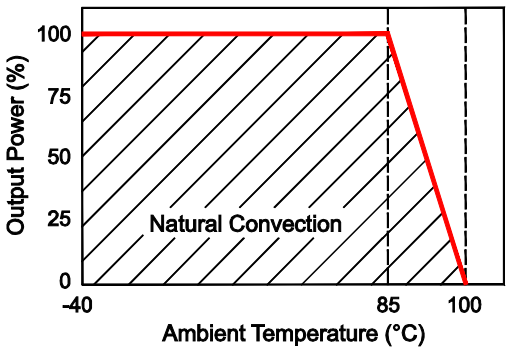
3.3Vdc:	Cin 4.7µF,25V		3.3Vdc:	Cout 22µF,25V	
5Vdc:	Cin 4.7µF,25V		5Vdc:	Cout 10µF,25V	
9Vdc:	Cin 4.7µF,25V		9Vdc:	Cout 4.7µF,25V	
12Vdc:	Cin 2.2µF,25V		12Vdc:	Cout 2.2µF,25V	
15Vdc:	Cin 1µF,50V		15Vdc:	Cout 1µF,50V	
24Vdc:	Cin 1µF,50V		24Vdc:	Cout 1µF,50V	
48Vdc:	Cin 1µF,100V				



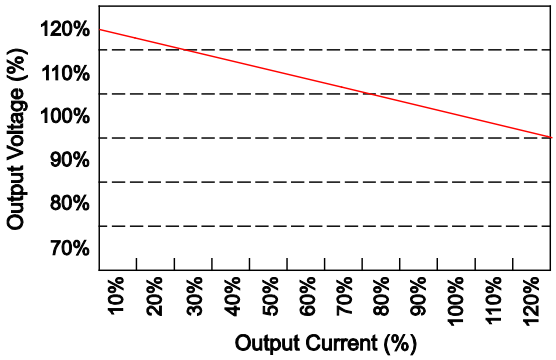
3.3Vdc:	Cin 4.7µF,25V		3.3Vdc:	Cout 22µF,25V	
5Vdc:	Cin 4.7µF,25V		5Vdc:	Cout 10µF,25V	
9Vdc:	Cin 4.7µF,25V		9Vdc:	Cout 4.7µF,25V	
12Vdc:	Cin 2.2µF,25V		12Vdc:	Cout 2.2µF,25V	
15Vdc:	Cin 1µF,50V		15Vdc:	Cout 1µF,50V	
24Vdc:	Cin 1µF,50V		24Vdc:	Cout 1µF,50V	
48Vdc:	Cin 1µF,100V				

CHARACTERISTICS

Derating Curve



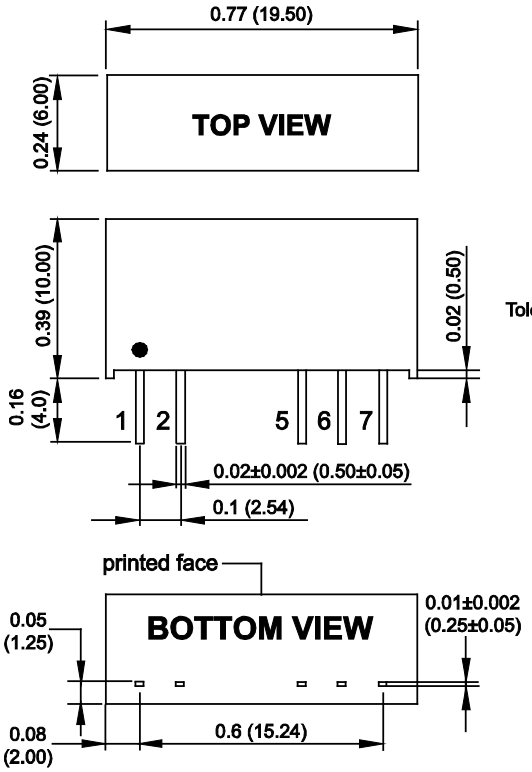
Tolerance Envelope Graph



MECHANICAL DRAWINGS

PACKAGE TYPE 1

Unit: inches (mm)



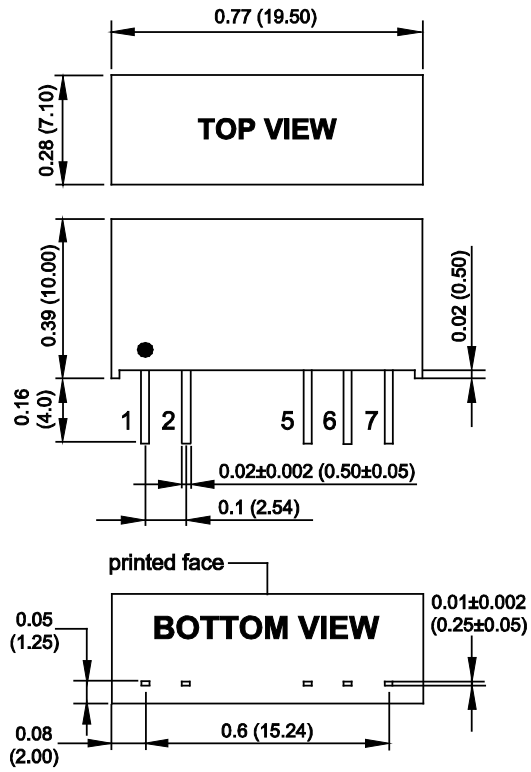
PIN CONNECTIONS		
PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

Tolerance is ±0.01 (±0.25) unless otherwise specified

All dimensions are for reference only

PACKAGE TYPE 2

Unit: inches (mm)



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

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