



Wall Industries, Inc.

LAN E Series
Up to 2 Watts
DC/DC Converter
Single and Dual Output

FEATURES

- 7 Pin SIP Package
- 1000VDC I/O Isolation
- Single and Dual Outputs
- UL 94V-0 Package Material
- Up to 2 Watts Output Power
- Low Reflected Ripple Current
- Input 3.3, 5, 12, 15, 24, and 48VDC
- Industrial Grade -40°C to +85°C "I" Option
- 2 Watt models available (Add suffix "2" to the part number)



SPECIFICATIONS: LAN E Series

All specifications apply @ 25°C ambient unless otherwise noted

INPUT SPECIFICATIONS

Input Voltage Range $\pm 10\%$
Nominal Input Voltage 3.3, 5, 12, 15, 24, & 48 VDC
Input Voltage Tolerance $\pm 5\%$
Input Filtering Low ESR Capacitors

OUTPUT SPECIFICATIONS

Output Voltage see table
Voltage Tolerance $\pm 5\%$ (nom. Line, 100% load)
Output Current see table
Output Power 1 watt max.
Line Regulation (10% to 100% FL) $\pm 1.2\%$ / 1% of V_{in}
Load Regulation (10% to 100% FL)
 5V output 15% max
 9, 12, and 15V outputs 10% max
Ripple/Noise (20 MHz BW)
 3.3 and 48V inputs 150mVp-p max.
 5, 12, 15, and 24V inputs 100mVp-p max.

PROTECTION SPECIFICATIONS

Short Circuit Protection Short term

GENERAL SPECIFICATIONS

Efficiency 70% typ.
Switching Frequency 100KHz typ.
Isolation Voltage (Input to Output) 1000VDC min.
Isolation Resistance 1000M Ω min. @ 500VDC

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature 0°C ~ +70°C
 "I" suffix -40°C ~ +85°C
Storage Temperature -40°C ~ +100°C
Cooling Free air convection
MTBF See MTBF chart (page 3)

PHYSICAL SPECIFICATIONS

Dimensions
 3.3, 5, 12, 15, and 24V inputs 19.5(L) x 6(W) x 10(H) mm
 48V input 19.5(L) x 7.5(W) x 10(H) mm
Case Material Non-Conductive black plastic
Potting material Epoxy (UL94-V0)

Due to advances in technology, specifications subject to change without notice

NOTES

1. For industrial grade operating temperature of -40°C to +85°C add suffix "I" to the part number.
2. All case and pin-to-case measurements for reference only unless otherwise noted.
3. For 2 watt models, add suffix "2" to the part number and increase the width from 6mm to 7.5mm.
4. 2 Watt models are not available with 48V input.
5. Dimensions of 3.3, 5, 12, 15, and 24V input models are 19.5(L) x 6(W) x 10(H) mm. The dimensions of the 48V input models and the 2 watt models are 19.5(L) x 7.5(W) x 10(H) mm.



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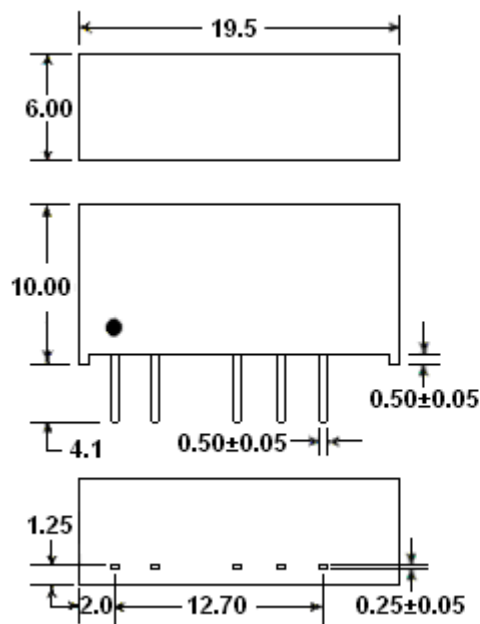
OUTPUT VOLTAGE / CURRENT RATING CHART

Model Number	Input Voltage	Output Voltage	Output Current (1 Watt)	Output Current (2 Watts)	Efficiency (Typ.)
LANE3.305N	3.3 VDC	5 VDC	200 mA	400 mA	70%
LANE3.309N	3.3 VDC	9 VDC	112 mA	224 mA	75%
LANE3.312N	3.3 VDC	12 VDC	84 mA	167 mA	75%
LANE3.315N	3.3 VDC	15 VDC	67 mA	132 mA	75%
LANE3.305ND	3.3 VDC	±5 VDC	±100 mA	±200 mA	70%
LANE3.309ND	3.3 VDC	±9 VDC	±56 mA	±111 mA	75%
LANE3.312ND	3.3 VDC	±12 VDC	±42 mA	±83 mA	75%
LANE3.315ND	3.3 VDC	±15 VDC	±34 mA	±67 mA	75%
LANE505N	5 VDC	5 VDC	200 mA	400 mA	70%
LANE509N	5 VDC	9 VDC	112 mA	224 mA	75%
LANE512N	5 VDC	12 VDC	84 mA	167 mA	75%
LANE515N	5 VDC	15 VDC	67 mA	132 mA	75%
LANE505ND	5 VDC	±5 VDC	±100 mA	±200 mA	70%
LANE509ND	5 VDC	±9 VDC	±56 mA	±111 mA	75%
LANE512ND	5 VDC	±12 VDC	±42 mA	±83 mA	75%
LANE515ND	5 VDC	±15 VDC	±34 mA	±67 mA	75%
LANE515ND1.2	5 VDC	±15 VDC	±40 mA	-	75%
LANE1205N	12 VDC	5 VDC	200 mA	400 mA	70%
LANE1209N	12 VDC	9 VDC	112 mA	224 mA	75%
LANE1212N	12 VDC	12 VDC	84 mA	167 mA	75%
LANE1215N	12 VDC	15 VDC	67 mA	132 mA	75%
LANE1205ND	12 VDC	±5 VDC	±100 mA	±200 mA	70%
LANE1209ND	12 VDC	±9 VDC	±56 mA	±111 mA	75%
LANE1212ND	12 VDC	±12 VDC	±42 mA	±83 mA	75%
LANE1215ND	12 VDC	±15 VDC	±34 mA	±67 mA	75%
LANE1505N	15 VDC	5 VDC	200 mA	400 mA	70%
LANE1509N	15 VDC	9 VDC	112 mA	224 mA	75%
LANE1512N	15 VDC	12 VDC	84 mA	167 mA	75%
LANE1515N	15 VDC	15 VDC	67 mA	132 mA	75%
LANE1505ND	15 VDC	±5 VDC	±100 mA	±200 mA	70%
LANE1509ND	15 VDC	±9 VDC	±56 mA	±111 mA	75%
LANE1512ND	15 VDC	±12 VDC	±42 mA	±83 mA	75%
LANE1515ND	15 VDC	±15 VDC	±34 mA	±67 mA	75%
LANE2405N	24 VDC	5 VDC	200 mA	400 mA	70%
LANE2409N	24 VDC	9 VDC	112 mA	224 mA	75%
LANE2412N	24 VDC	12 VDC	84 mA	167 mA	75%
LANE2415N	24 VDC	15 VDC	67 mA	132 mA	75%
LANE2405ND	24 VDC	±5 VDC	±100 mA	±200 mA	70%
LANE2409ND	24 VDC	±9 VDC	±56 mA	±111 mA	75%
LANE2412ND	24 VDC	±12 VDC	±42 mA	±83 mA	75%
LANE2415ND	24 VDC	±15 VDC	±34 mA	±67 mA	75%
LANE4805N	48 VDC	5 VDC	200 mA	-	70%
LANE4809N	48 VDC	9 VDC	112 mA	-	75%
LANE4812N	48 VDC	12 VDC	84 mA	-	75%
LANE4815N	48 VDC	15 VDC	67 mA	-	75%
LANE4805ND	48 VDC	±5 VDC	±100 mA	-	70%
LANE4809ND	48 VDC	±9 VDC	±56 mA	-	75%
LANE4812ND	48 VDC	±12 VDC	±42 mA	-	75%
LANE4815ND	48 VDC	±15 VDC	±34 mA	-	75%

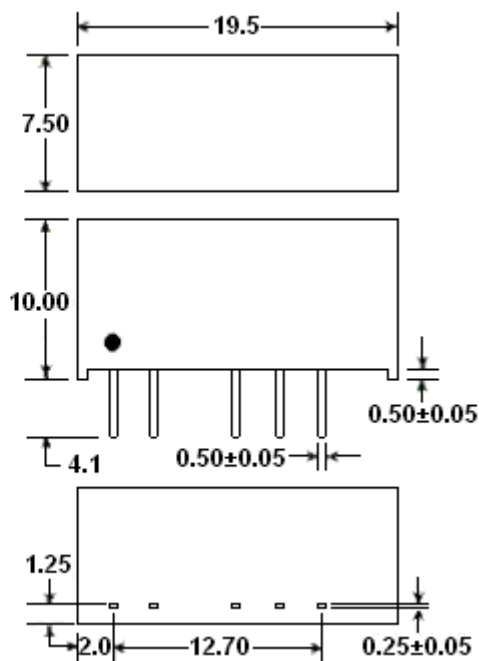
MECHANICAL DRAWING

Unit: mm

3.3, 5, 12, 15, & 24V Input Models



48V Input Models & 2 Watt models



PIN CONNECTIONS

PIN	3.3, 5, 12, 15 & 24V Input Models	48V Input Models & 2 Watt Models	Dual Outputs
1	+INPUT	+INPUT	+INPUT
2	-INPUT	-INPUT	-INPUT
4	-OUTPUT	-OUTPUT	-OUTPUT
5	NC	NC	COMMON
6	+OUTPUT	+OUTPUT	+OUTPUT

MTBF for LAN "E" SERIES, MIL217F

Failure rate and MTBF due to ambient temp. and load derating

Ambient Temp.	Failure Rate (FIT) MTBF (H)	Load Derating			
		100%	75%	50%	25%
20°C	FIT	1464	964	519	299
	H	683060	1037344	1926782	2344482
30°C	FIT	2196	1446	779	449
	H	455373	691563	1283697	2227171
40°C	FIT	3660	2410	1298	748
	H	273224	414937	770416	1336898
50°C	FIT	5856	3856	2076	1196
	H	170765	259336	481695	836120
60°C	FIT	8784	1784	3114	1194
	H	113843	172890	321130	657414
70°C	FIT	12444	8194	4412	2542
	H	80360	122040	226655	393391



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DERATING CURVE

