

FEATURES

- Low Ripple & Noise
- 3000VDC I/O Isolation
- External ON/OFF Control
- High Efficiency up to 85%
- RoHS Directive Compliant
- 2:1 Wide Input Voltage Range
- UL94-V0 Case Potting Materials
- Continuous Short Circuit Protection
- SIP Package: 0.86 x 0.36 x 0.44 Inches
- ISO9001 Certified Manufacturing Facilities
- No External Input or Output Capacitor Needed
- UL60950-1, EN60950-1, and IEC60950-1 Licensed
- 1600VDC I/O Isolation Available (See LANEW3 series)
- CE Mark Meets 2006/95/EC, 93/68/EEC and 2004/108/EC

APPLICATIONS

- Telecom/Datacom
- Wireless Networks
- Industry Control Systems
- Measurement Equipment
- Semiconductor Equipment



DESCRIPTION

The LANEW3 "H" Series offers 3 watts of output power from a 0.86 x 0.36 x 0.44 inch package without derating up to 71°C. The LANEW3 "H" Series has a 2:1 wide input voltage range of 4.5-9, 9-18, 18-36 and 36-75VDC, it features 3000VDC I/O isolation, remote on/off, and short-circuit protection. All models are ideally suited for telecommunications, mobile telecom, test equipment, and industrial applications. For 1600VDC I/O isolation see the LANEW3 Series.

SPECIFICATIONS: LANEW3 "H" 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.

INPUT SPECIFICATIONS

Input Voltage Range	5V nominal input 12V nominal input 24V nominal input 48V nominal input	4.5 – 9 VDC 9 – 18 VDC 18 – 36 VDC 36 – 75 VDC
Input Current		See Table
Input Filter		Capacitor Type
Input Surge Voltage (100ms max)	5V nominal input 12V nominal input 24V nominal input 48V nominal input	15 VDC 36 VDC 50 VDC 100 VDC
Input Reflected Ripple Current	5V nominal input 12V nominal input 24V nominal input 48V nominal input	400mA _{p-p} 150mA _{p-p} 380mA _{p-p} 170mA _{p-p}
Start Up Time (Nominal Vin and constant resistive Load)	Power Up Remote ON/OFF	30ms typ 30ms typ
Remote ON/OFF	DC-DC ON DC-DC OFF Remote OFF Input Current (nominal input) Application Circuit	Open or high impedance Control pin applied current 2 ~ 4mA max (via 1KΩ) 2.5mA max

OUTPUT SPECIFICATIONS

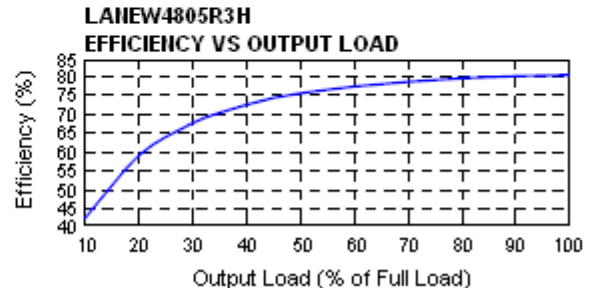
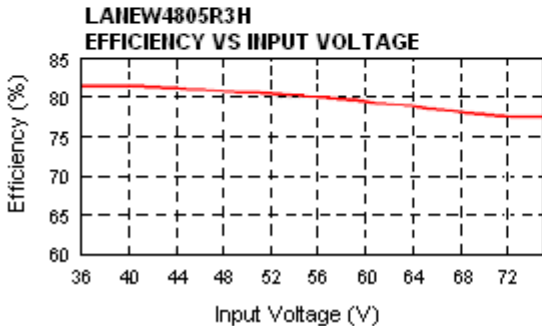
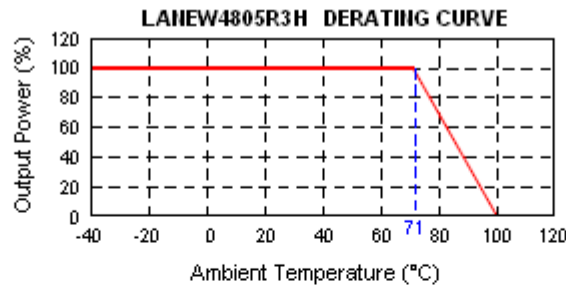
Output Voltage		See Table
Voltage Accuracy	Full load and nominal Vin	±1%
Line Regulation	Low line to high line at full load	±0.2%
Load Regulation	Single Output (no load to full load)	±1%
	5% load to 100% load	±0.5%
	Dual Output (no load to full load)	±1%
Cross Regulation (Dual)	Asymmetrical load 25% / 100% FL	±5%
Minimum Load		0%
Output Power		3 Watts max.
Ripple & Noise (See Note 4)	20MHz bandwidth	50mV _{p-p}
Transient Response Recovery Time	25% load step change	500μs typ.

PROTECTION

Short Circuit Protection		Continuous, automatic recovery
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SPECIFICATIONS (CONTINUED)			
GENERAL SPECIFICATIONS			
Efficiency			See Table
Switching Frequency	Full load to minimum load		100KHz, min.
Isolation Voltage (input to output)			3000VDC, min
Isolation Resistance			10GΩ min.
Isolation Capacitance			30pF max.
ENVIRONMENTAL SPECIFICATIONS			
Operating Temperature			-40°C ~ +71°C (without derating) +71°C ~ +100°C (with derating)
Storage Temperature			-55°C to +105°C
Relative Humidity			5% to 95% RH
Thermal Shock			MIL-STD-810F
Vibration			MIL-STD-810F
Temperature Coefficient			±0.02% / °C max.
MTBF (see Note 1)	Bellcore TR-NWT-000332 MIL-HDBK-217F		4,386,000 Hours 2,401,000 Hours
PHYSICAL SPECIFICATIONS			
Weight			4.8 grams (0.17oz)
Dimensions			0.86(L) x 0.36(W) x 0.44(H) inches 21.8(L) x 9.1(W) x 11.1(H) mm
Case Material			Non-conductive black plastic
Base Material			None
Potting Material			Silicon (UL94-V0)
SAFETY & EMC			
Safety Standards and Approvals			IEC60950-1, UL60950-1, EN60950-1
EMI (See Note 6)	EN55022		Class A
ESD	EN61000-4-2	Air ± 8KV Contact ± 6KV	Perf. Criteria A
Radiated Immunity	EN61000-4-3	10V/m	Perf. Criteria A
Fast Transient (See Note 7)	EN61000-4-4	± 2KV	Perf. Criteria A
Surge (See Note 7)	EN61000-4-5	± 1KV	Perf. Criteria A
Conducted Immunity	EN61000-4-6	10Vr.m.s.	Perf. Criteria A

DERATING CURVES



OUTPUT VOLTAGE / CURRENT RATING CHART

Model Number	Input Range	Output Voltage	Output Current	Input Current		Efficiency ⁽⁴⁾	Capacitor ⁽⁵⁾ Load max
				No load ⁽³⁾	Full load ⁽²⁾		
LANEW533R3H	5 VDC (4.5 – 9 VDC)	3.3 VDC	700mA	113mA	670mA	73%	1760uF
LANEW505R3H		5 VDC	600mA	75mA	822mA	77%	1000uF
LANEW509R3H		9 VDC	333mA	83mA	811mA	78%	470uF
LANEW512R3H		12 VDC	250mA	83mA	800mA	79%	170uF
LANEW515R3H		15 VDC	200mA	53mA	790mA	80%	110uF
LANEW505RD3H		±5 VDC	±300mA	45mA	822mA	77%	±470uF
LANEW512RD3H		±12 VDC	±125mA	135mA	800mA	79%	±100uF
LANEW515RD3H		±15 VDC	±100mA	120mA	790mA	80%	±47uF
LANEW1233R3H		12 VDC (9 – 18 VDC)	3.3 VDC	700mA	45mA	275mA	74%
LANEW1205R3H	5 VDC		600mA	45mA	338mA	78%	1000uF
LANEW1209R3H	9 VDC		333mA	45mA	333mA	79%	470uF
LANEW1212R3H	12 VDC		250mA	45mA	329mA	80%	170uF
LANEW1215R3H	15 VDC		200mA	53mA	325mA	81%	110uF
LANEW1205RD3H	±5 VDC		±300mA	75mA	329mA	80%	±470uF
LANEW1212RD3H	±12 VDC		±125mA	60mA	325mA	81%	±100uF
LANEW1215RD3H	±15 VDC		±100mA	60mA	325mA	81%	±47uF
LANEW2433R3H	24 VDC (18 – 36 VDC)		3.3 VDC	700mA	23mA	138mA	74%
LANEW2405R3H		5 VDC	600mA	10mA	169mA	78%	1000uF
LANEW2409R3H		9 VDC	333mA	23mA	167mA	79%	470uF
LANEW2412R3H		12 VDC	250mA	26mA	164mA	80%	170uF
LANEW2415R3H		15 VDC	200mA	20mA	162mA	81%	110uF
LANEW2405RD3H		±5 VDC	±300mA	20mA	164mA	80%	±470uF
LANEW2412RD3H		±12 VDC	±125mA	24mA	162mA	81%	±100uF
LANEW2415RD3H		±15 VDC	±100mA	24mA	162mA	81%	±47uF
LANEW4833R3H		48 VDC (36 – 75 VDC)	3.3 VDC	700mA	11mA	69mA	74%
LANEW4805R3H	5 VDC		600mA	12mA	84mA	78%	1000uF
LANEW4809R3H	9 VDC		333mA	8mA	83mA	79%	470uF
LANEW4812R3H	12 VDC		250mA	8mA	82mA	80%	170uF
LANEW4815R3H	15 VDC		200mA	18mA	81mA	81%	110uF
LANEW4805RD3H	±5 VDC		±300mA	12mA	82mA	80%	±470uF
LANEW4812RD3H	±12 VDC		±125mA	12mA	81mA	81%	±100uF
LANEW4815RD3H	±15 VDC		±100mA	15mA	81mA	81%	±47uF

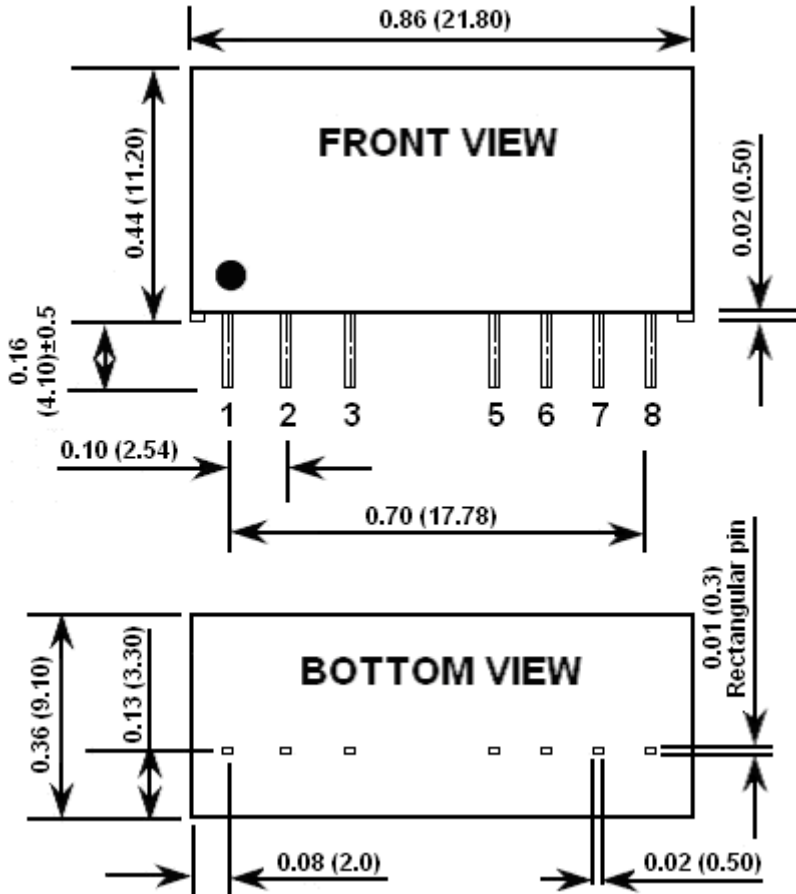
NOTES

- BELLCORE TR-NWT-000332. Case: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @ Ta = 25°C, Full Load (Ground fixed and controlled environment).
- Maximum value at nominal input voltage and full load.
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The LANEW3 "H" series meets EN55022 Class A with an external L-C filter before the input pins on the converter.
(Connect networks according to the Class B figure)
Recommended: 5Vin: C1 = 2.2µF/10V 1206MLCC L1 = 3.3µF 0504 SMD Inductor P/N: PMT-044
12Vin: C1 = 0.68µF/25V 1206MLCC L1 = 10µF 0504 SMD Inductor P/N: PMT-047
24Vin: C1 = 4.7µF/50V 1210MLCC L1 = 10µF 0504 SMD Inductor P/N: PMT-047
48Vin: C1 = 0.47µF/100V 1812MLCC L1 = 56µF 0504 SMD Inductor P/N: PMT-045
- The external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5. The filter capacitor suggested is Nippon chemi-con KY series, 220µF/100V, ESR 48mΩ.
- For 1600VDC input/output isolation see the LANEW3 Series.

**Due to advances in technology, specifications are subject to change without notice.*

MECHANICAL DRAWING

Unit: inches (mm)



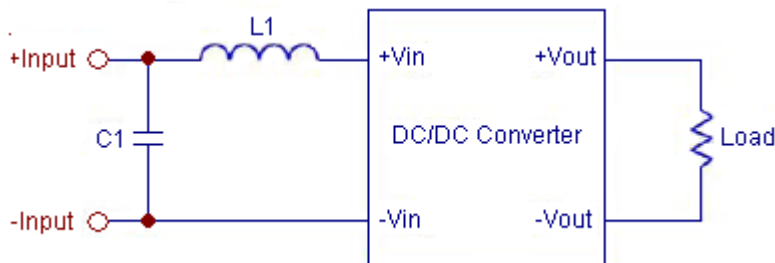
Pin Connection (3000VDC Isolation Models)		
Pin	Single Output	Dual Output
1	-INPUT	-INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NO PIN	NO PIN
6	+OUTPUT	+OUTPUT
7	-OUTPUT	COMMON
8	NC	-OUTPUT

Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)

Pin pitch tolerance: ±0.01 (0.25)

Pin dimension tolerance: ±0.004 (0.1)

Recommended Filter for EN55022 Class B Compliance



The components used in the figure above are as follows

	C1	L1
LANEW5xxxH	10µF/10V 1206 MLCC	3.3µH 0504 SMD Inductor PMT-044
LANEW12xxxH	2.2µF/25V 1206 MLCC	18µH 0504 SMD Inductor PMT-046
LANEW24xxxH	6.8µF/50V 1812 MLCC	18µH 0504 SMD Inductor PMT-046
LANEW48xxxH	2.2µF/100V 1812 MLCC	56µH 0504 SMD Inductor PMT-045

Recommended EN55022 Class B Filter Circuit Layout

