

**FEATURES**

- Low Ripple & Noise
- Single and Dual Outputs
- High Efficiency up to 81%
- External ON/OFF Control
- Output Current up to 500mA
- 2:1 Wide Input Voltage Range
- UL94-V0 Case Potting Materials
- 2 Watts Maximum Output Power
- Continuous Short Circuit Protection
- Switching Frequency (100KHz, min)
- Input to Output Isolation up to 1KVDC
- SIP Package: 0.86 x 0.36 x 0.44 Inches
- ISO9001 Certified Manufacturing Facilities
- Compliant to RoHS EU Directive 2002/95/EC
- No External Input and Output Capacitor Needed
- UL60950-1, EN60950-1, and IEC60950-1 Licensed
- CE Mark Meets 2006/95/EC, 93/68/EEC, and 2004/108/EC

**APPLICATIONS**

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



**DESCRIPTION**

The LANEW series offers 2 watts of output power from a 0.86 x 0.36 x 0.44 inch package without derating to 85°C and without external input/output capacitors. The LANEW series has 2:1 wide input voltage ranges of 4.5-9, 9-18, 18-36 and 36-75VDC and features 1000VDC of isolation and short-circuit protection. The LANEW series meets EN60950 and UL60950 requirements. All models are particularly well suited to telecommunications, industrial, mobile telecom and test equipment applications.

**SPECIFICATIONS: LANEW Series**

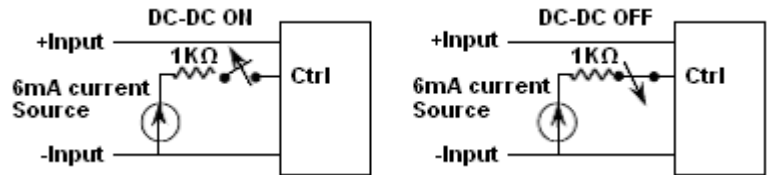
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

**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 (There is an external capacitor at input (See Note 7))	5V nominal input (10µF / MLCC) 12V nominal input (10µF / MLCC) 24V nominal input (2.2µF / MLCC) 48V nominal input (2.2µF / MLCC)	400mA <sub>p-p</sub> , max 150mA <sub>p-p</sub> , max 380mV <sub>p-p</sub> , max 170mV <sub>p-p</sub> , max
Start Up Time (Nominal Vin and constant resistive Load)	Power Up Remote ON/OFF	1ms, typ 1ms, typ

Remote ON/OFF	DC-DC ON DC-DC OFF	Open or high impedance Control pin applied current 4 ~ 8mA max (via 1KΩ) 2.5mA, max
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**Application Circuit**



**OUTPUT SPECIFICATIONS**

Output Voltage		See Table
Voltage Accuracy	Full load and nominal Vin	±1%
Line Regulation	Low line to high line at full load	±0.5%
Load Regulation (min load to full load)	Single Output (3.3V <sub>out</sub> ) Single Output (Others) Dual Output	±0.85% ±0.75% ±1%
Cross Regulation (Dual)	Asymmetrical load 25% / 100% FL	±5%
Minimum Load (See Note 6)		See table



Wall Industries, Inc.

Rev. B

LANEW Series  
2 Watt DC/DC Converter  
Single and Dual Outputs  
2:1 Wide Input Voltage Range

SPECIFICATIONS (CONTINUED)			
<b>OUTPUT SPECIFICATIONS (CONTINUED)</b>			
Output Power			2 Watts max.
Output Current			See Table
Ripple & Noise (20MHz bandwidth)			50mVp-p
Transient Response Recovery Time	25% load step change		500µs, typ.
<b>PROTECTION</b>			
Short Circuit Protection			Continuous, automatic recovery
<b>GENERAL SPECIFICATIONS</b>			
Efficiency			See Table
Switching Frequency	Full load to minimum load		100KHz, min.
Isolation Voltage (input to output)			1000VDC min.
Insulation Resistance			10GΩ min.
Isolation Capacitance			200pF max.
<b>ENVIRONMENTAL SPECIFICATIONS</b>			
Operating Temperature			-40°C to +85°C (with derating)
Storage Temperature			-55°C to +105°C
Relative Humidity			5% to 95% RH
Temperature Coefficient			±0.2% / °C max.
Thermal Shock			MIL-STD-810F
Vibration			MIL-STD-810F
MTBF (see Note 1)	BELLCORE TR-NWT-000332		5,107,000 hours
	MIL-HDBK-217F		2,886,000 hours
<b>PHYSICAL SPECIFICATIONS</b>			
Weight			4.8 grams (0.17oz)
Dimensions (LxWxH)			0.86 x 0.36 x 0.44 inches 21.8 x 9.1 x 11.2 mm
Case Material			Non-conductive black plastic
Base Material			None
Potting Material			Silicon (UL94-V0)
<b>SAFETY &amp; EMC</b>			
Safety Approvals and Standards			IEC60950-1, UL60950-1, EN60950-1
EMI (see Note 8)	EN55022		Class A
ESD	EN61000-4-2	Air ± 8KV Contact ± 6KV	Perf. Criteria A
Radiated Community	EN61000-4-3	10 V/m	Perf. Criteria A
Fast Transient (see Note 9)	EN61000-4-4	± 2KV	Perf. Criteria B
Surge (see Note 9)	EN61000-4-5	± 1 KV	Perf. Criteria A
Conducted Immunity	EN61000-4-6	10 Vrms	Perf. Criteria A

**OUTPUT VOLTAGE / CURRENT RATING CHART**

Model Number	Input Range	Output Voltage	Output Current		Input Current <sup>(5)</sup>	Efficiency <sup>(6)</sup>	Capacitor <sup>(7)</sup> Load max
			Min. load	Full load			
LANEW533R	5 VDC (4.5 – 9 VDC)	3.3 VDC	50mA	500mA	540mA	65%	2200uF
LANEW505R		5 VDC	40mA	400mA	615mA	69%	1000uF
LANEW509R		9 VDC	22mA	222mA	596mA	71%	470uF
LANEW512R		12 VDC	17mA	167mA	588mA	72%	170uF
LANEW515R		15 VDC	13mA	134mA	582mA	73%	110uF
LANEW505RD		±5 VDC	±20mA	±200mA	645mA	66%	±470uF
LANEW512RD		±12 VDC	±8mA	±83mA	595mA	71%	±100uF
LANEW515RD		±15 VDC	±7mA	±67mA	598mA	71%	±47uF
LANEW1233R	12 VDC (9 – 18 VDC)	3.3 VDC	50mA	500mA	202mA	72%	2200uF
LANEW1205R		5 VDC	40mA	400mA	234mA	75%	1000uF
LANEW1209R		9 VDC	22mA	222mA	222mA	79%	470uF
LANEW1212R		12 VDC	17mA	167mA	219mA	80%	170uF
LANEW1215R		15 VDC	13mA	134mA	220mA	80%	110uF
LANEW1205RD		±5 VDC	±20mA	±200mA	242mA	73%	±470uF
LANEW1212RD		±12 VDC	±8mA	±83mA	224mA	78%	±100uF
LANEW1215RD		±15 VDC	±7mA	±67mA	226mA	78%	±47uF
LANEW2433R	24 VDC (18 – 36 VDC)	3.3 VDC	50mA	500mA	102mA	71%	2200uF
LANEW2405R		5 VDC	40mA	400mA	115mA	76%	1000uF
LANEW2409R		9 VDC	22mA	222mA	109mA	80%	470uF
LANEW2412R		12 VDC	17mA	167mA	109mA	80%	170uF
LANEW2415R		15 VDC	13mA	134mA	108mA	81%	110uF
LANEW2405RD		±5 VDC	±20mA	±200mA	117mA	75%	±470uF
LANEW2412RD		±12 VDC	±8mA	±83mA	112mA	78%	±100uF
LANEW2415RD		±15 VDC	±7mA	±67mA	110mA	80%	±47uF
LANEW4833R	48 VDC (36 – 75 VDC)	3.3 VDC	50mA	500mA	52mA	70%	2200uF
LANEW4805R		5 VDC	40mA	400mA	60mA	74%	1000uF
LANEW4809R		9 VDC	22mA	222mA	56mA	78%	470uF
LANEW4812R		12 VDC	17mA	167mA	55mA	80%	170uF
LANEW4815R		15 VDC	13mA	134mA	55mA	79%	110uF
LANEW4805RD		±5 VDC	±20mA	±200mA	62mA	75%	±470uF
LANEW4812RD		±12 VDC	±8mA	±83mA	57mA	77%	±100uF
LANEW4815RD		±15 VDC	±7mA	±67mA	57mA	77%	±47uF

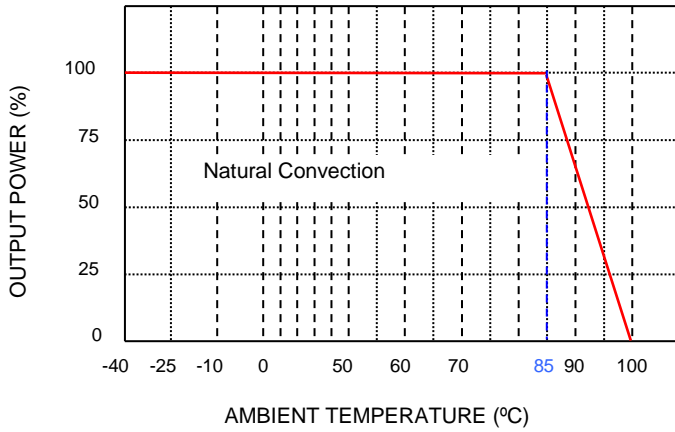
**NOTES:**

1. The LANEW Series requires a minimum 10% loading at the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specifications.
2. It will not damage the device without inserting external input capacitors. There is a smaller reflected ripple current when a capacitor is put at the input. The capacitor recommended is "CHEMICON" LXZ series or equivalent for 05 & 12Vin and "CHEMICON" KMF series or equivalent for 24 & 48Vin.
3. BELLCORE TR-NWT-000332. Case: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
4. The LANEW series meet EN55022 classes A with a filter at input. The filter capacitor recommended is same as Note 2.
5. Maximum value at nominal input voltage and full load.
6. Typical value at nominal input voltage and full load.
7. Test by minimum Vin and constant resistive load.

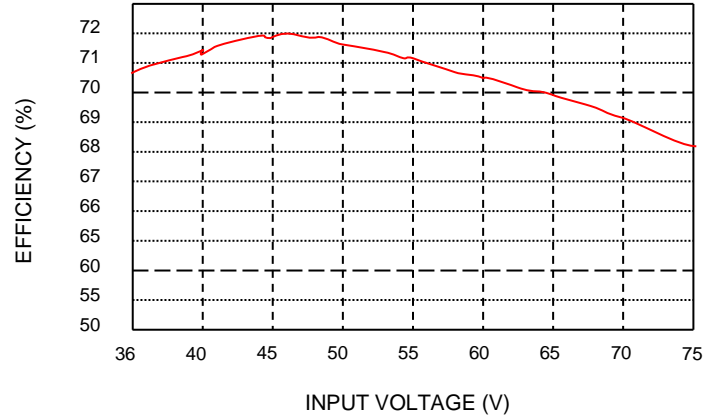
*\*Due to advances in technology, specifications are subject to change without notice.*

**DERATING CURVE & EFFICIENCY GRAPHS**

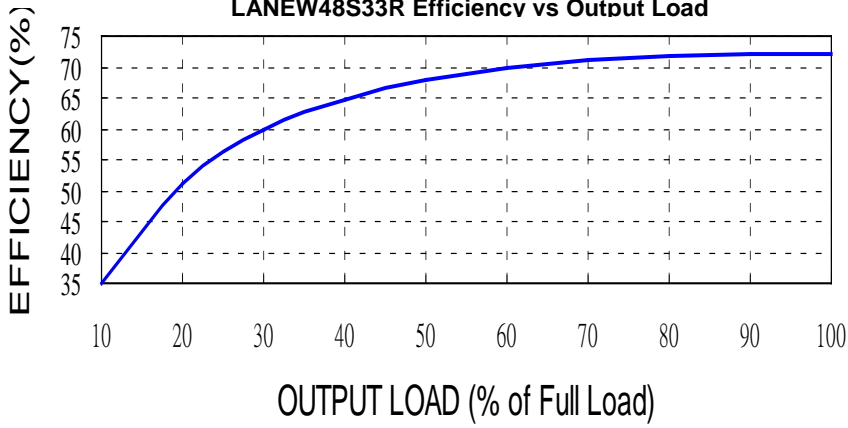
**LANEW48S33R Derating Curve**



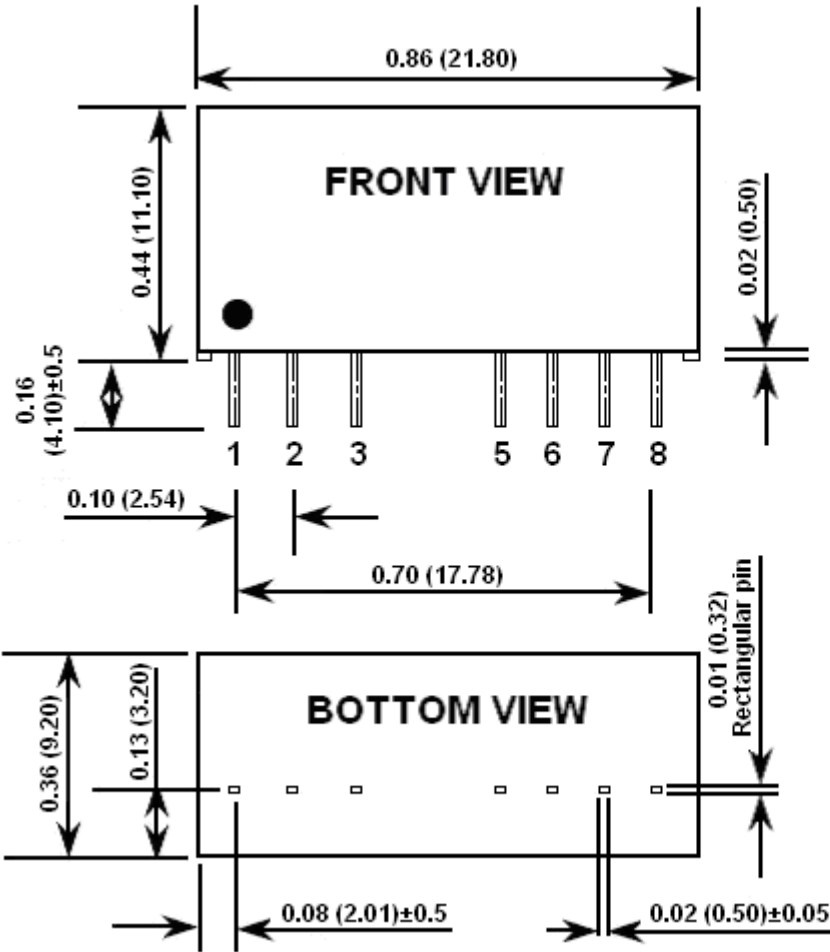
**LANEW48S33R Efficiency VS Input Voltage**



**LANEW48S33R Efficiency vs Output Load**



## MECHANICAL DRAWING



ALL DIMENSIONS IN INCHES (mm)  
TOLERANCE: X.XX±0.02(X.X±0.5)  
X.XXX±0.01(X.XX±0.25)

PIN CONNECTION		
Pin	Single Output	Dual Output
1	-INPUT	-INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NC	NC
6	+OUTPUT	+OUTPUT
7	-OUTPUT	COMMON
8	NC	-OUTPUT