

NW SERIES

1W WIDE INPUT RANGE

FEATURES

- UP TO 1W OUTPUT POWER
- 100% BURN IN
- HIGH EFFICIENCY
- SMD TECHNOLOGY
- LOW COST
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- MTBF>630,000 HOURS
- RoHS COMPLIANT
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹	100mVp-p max.
Line Regulation ²	+/-0.5% max.
Load Regulation ³	+/-0.5% max.
Minimum Load	10% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	150% typ.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °C to +85 °C
Case Temperature	+110 °C max.
Storage Temperature	-55 °C to +125 °C
Humidity	95% max.
Cooling	Free-Air Convection

INPUT SPECIFICATIONS

Input Voltage Range	2:1 Input Range
Input Filter	Capacitor Type
Protection	Fuse Recommended

GENERAL SPECIFICATIONS

Efficiency	75% typ.
Isolation Voltage ⁴	1500 VDC min.
Isolation Resistance	10 ⁹ ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	100KHz min.
MTBF ⁵	>630,000 Hours
Weight	1.4g typ.
Case Material	Non-Conductive Plastic
Case Size	15.24mm*11.1mm*7.1mm
Radiated Emissions	EN55032 Class A

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² High Line to Low Line.

³ Load Regulation is for output load current change from 10% to 100%.

⁴ For 10 seconds.

⁵ MIL-HDBK-217F@25 °C, Ground Benign.

● SELECTION GUIDE

1W 1500VDC ISOLATION

Specifications typical at $t_a=25^{\circ}\text{C}$, nominal input voltage, rated output current unless otherwise specified.

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁶ CURRENT(mA)		EFF (%) ⁷	ISOLATION ⁸ (VDC)	Capacitive Load Max
				FULL LOAD	NO LOAD			
NWS-1205	9-18	5	200	111	20	75	1500	1500uF
NWS-1212	9-18	12	83	111	25	75	1500	470uF
NWS-1215	9-18	15	67	112	25	75	1500	470uF
NWS-2405	18-36	5	200	56	12	75	1500	1500uF
NWS-2412	18-36	12	83	55	15	75	1500	470uF
NWS-2415	18-36	15	67	56	15	75	1500	470uF
NWS-4805	36-72	5	200	28	5	75	1500	1500uF
NWS-4812	36-72	12	83	28	5	75	1500	470uF
NWS-4815	36-72	15	67	28	5	75	1500	470uF

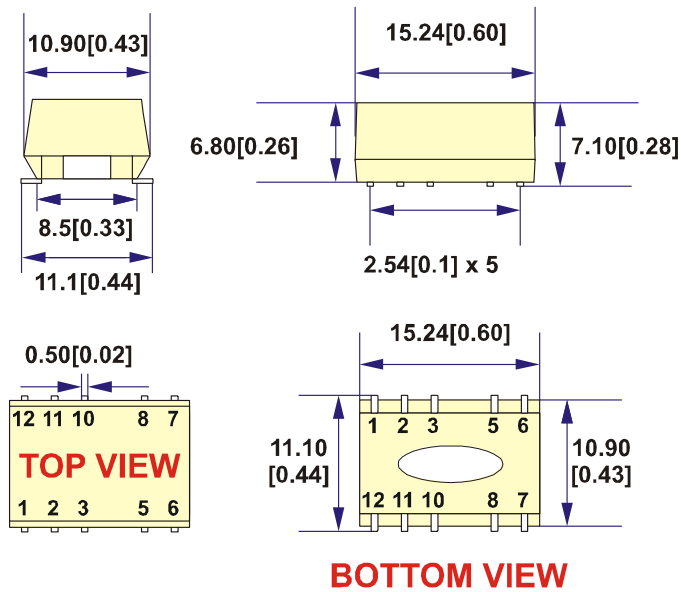
Note: Other input to output voltages may be available. Please contact factory.

⁶ NOMINAL INPUT VOLTAGE.

⁷ NOMINAL INPUT VOLTAGE, FULL LOAD.

⁸ 1500VDC for 10 seconds.

● MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



PIN	SINGLE
1	-Vin
2 & 3	NC
5	-Vout
6	+Vout
7 & 8	NC
10 & 11	NC
12	+Vin

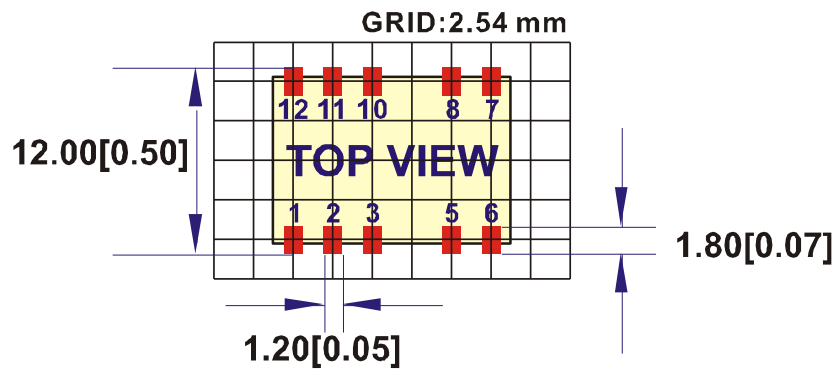
NOTE : All Dimensions are in mm [inches]

1. Pin Size is 0.50x0.30mm[0.02x0.01"]

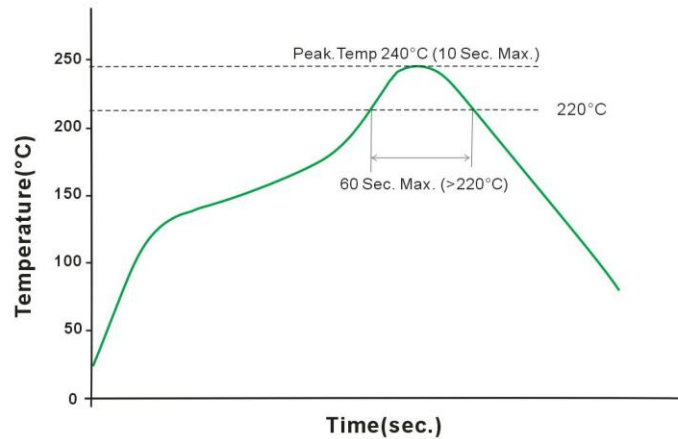
2. Pin is Tolerance .XX= ±0.07mm

3. Tolerance .X or .XX= ±0.5mm

All dimensions are in mm[inches]



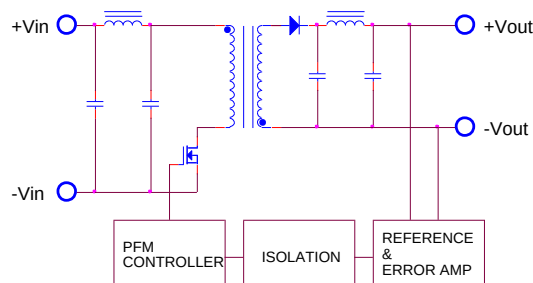
● REFLOW SOLDERING CURVE



Remark: The curve applies only to the hot air reflow soldering.

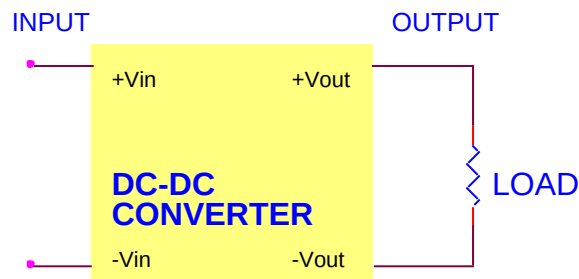
● SIMPLIFIED SCHEMATIC

SINGLE OUTPUT



● TYPICAL APPLICATIONS

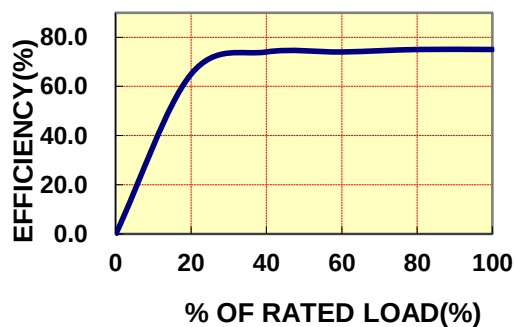
SINGLE OUTPUT



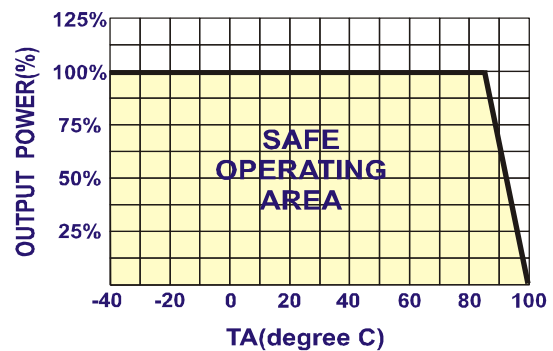
● TYPICAL PERFORMANCE CURVES

Specifications typical at $t_a=25^\circ\text{C}$, nominal input voltage, rated output current unless otherwise specified.

OUTPUT LOAD VS EFFICIENCY



TEMPERATURE DERATING



● INPUT FUSE SELECTION GUIDE 1W 1500VDC ISOLATION

9-18V INPUT VOLTAGE(VDC)	18-36V INPUT VOLTAGE(VDC)	36-72V INPUT VOLTAGE(VDC)
300mA Slow-Blow Type	150mA Slow-Blow Type	100mA Slow-Blow Type

The diagram shows a yellow rectangular block labeled "DC-DC CONVERTER". It has four terminals: +Vin (top-left), -Vin (bottom-left), +Vout (top-right), and -Vout (bottom-right). To the left of the +Vin and -Vin terminals is a circuit labeled "INPUT". It consists of a horizontal line with a wavy "Fuse" symbol in the middle. To the right of the +Vout and -Vout terminals is a circuit labeled "OUTPUT", which is a simple horizontal line.

Note: Certain applications may require the installation of external fuse in front of the input.

NW SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

Output filtering is required for operation. A minimum of 10uF is needed. Output capacitance may be increased for additional filtering, not to exceed 470uF.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 250KHz is required.

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.