

1W WIDE INPUT RANGE SMD

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		INPUT SPECIFICATIONS	
Voltage Set-point Accuracy	+/-2% max.	Input Voltage Range	2:1 Input Range
Temperature Coefficient	+/-0.05%/°C	Input Filter	Capacitor Type
Ripple & Noise(20MHz BW) ¹	100mVp-p max.	Protection	Fuse Recommended
Line Regulation ²	+/-0.5% max.	GENERAL SPECIFICATIONS	
Load Regulation ³	+/-0.5% max.		
Minimum Load	10% of Full Load		
Short Circuit Protection	Continuous		
Short Circuit Restart	Automatic	Efficiency	75% typ.
Over Load Protection	150% typ.	Isolation Voltage ⁴	1500 VDC min.
ENVIRONMENTAL SPECIFICATIONS		Isolation Resistance	10 ⁹ ohms min.
		Isolation Capacitance	80pF max.
		Switching Frequency	100KHz min.
		MTBF ⁵	>630,000 Hours
Operating Temperature	-40 °C to +85 °C	Weight	1.4g typ.
Case Temperature	+110 °C max.	Case Material	Non-Conductive Plastic
Storage Temperature	-55 °C to +125 °C	Case Size	15.24mm*11.1mm*7.1mm
Humidity	95% max.	Radiated Emissions	EN55032 Class A
Cooling	Free-Air Convection		

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

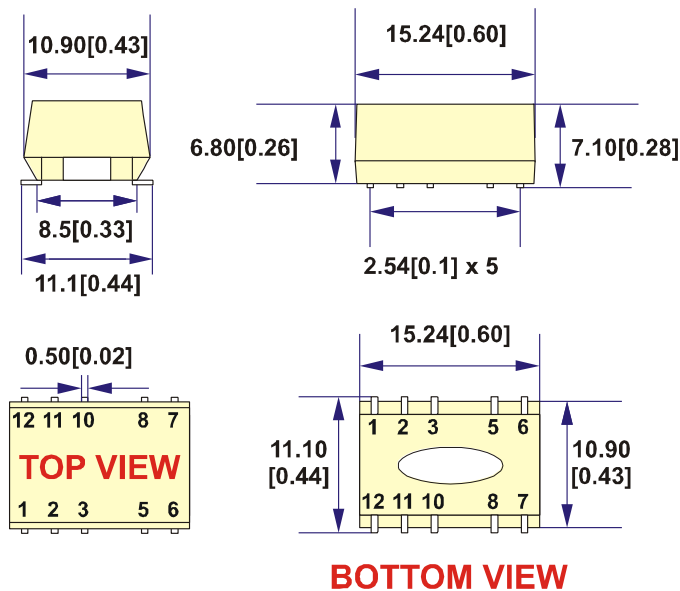
Note: Other input to output voltages may be available. Please contact factory.

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

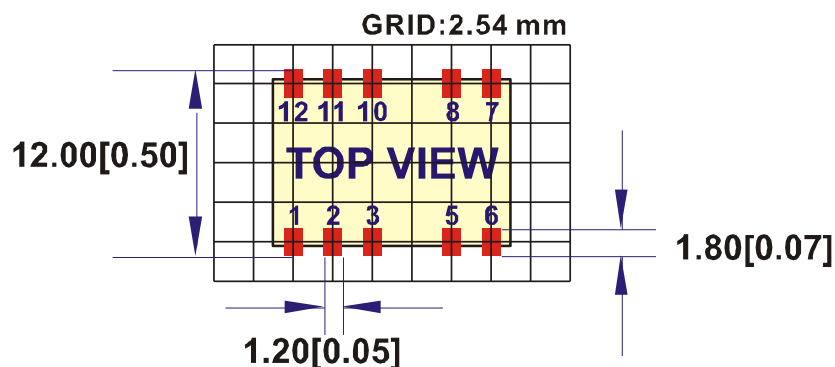
NOTE : All Dimensions are in mm [inches]

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

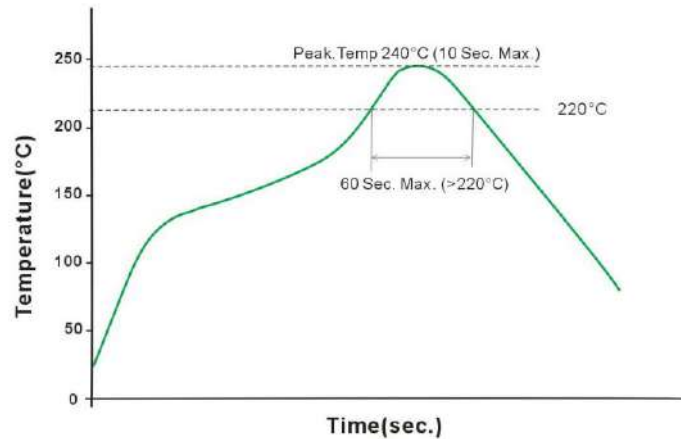
2. Pin is Tolerance .XX= ± 0.07 mm

3. Tolerance .X or .XX= ± 0.5 mm

All dimensions are in mm[inches]



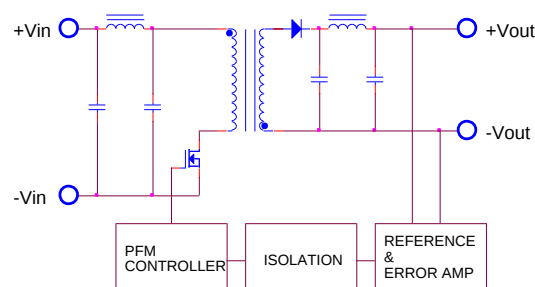
● REFLOW SOLDERING CURVE



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

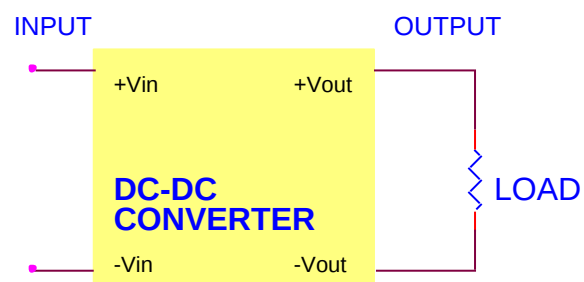
● SIMPLIFIED SCHEMATIC

SINGLE OUTPUT



● TYPICAL APPLICATIONS

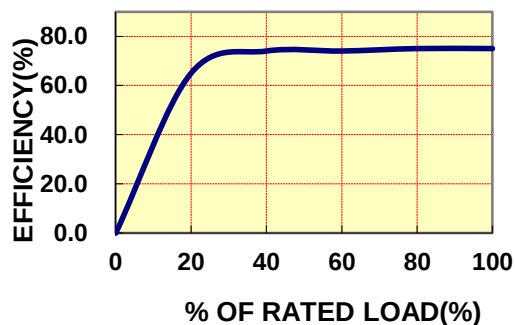
SINGLE OUTPUT



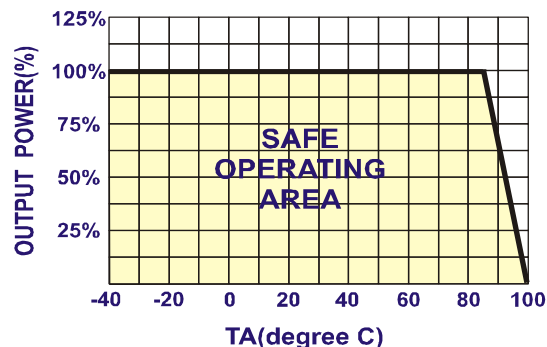
● TYPICAL PERFORMANCE CURVES

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

The diagram shows a yellow box labeled 'DC-DC CONVERTER'. On the left, there are two input terminals: '+Vin' (top) and '-Vin' (bottom). A fuse is connected in series with the '+Vin' line. On the right, there are two output terminals: '+Vout' (top) and '-Vout' (bottom). The word 'INPUT' is written above the input terminals, and 'OUTPUT' is written above the output terminals.

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

EXTERNAL CAPACITANCE REQUIREMENTS:

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

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.