

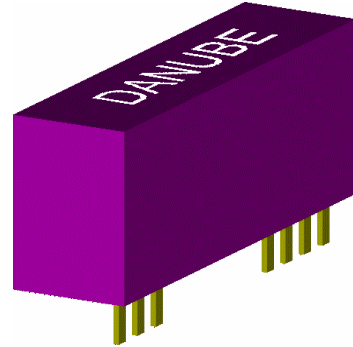
1W SERIES

2W WIDE INPUT RANGE

DANUBE

FEATURES

- 1000VDC ISOLATION
- SINGLE IN LINE PACKAGE
- UP TO 2W REGULATED OUTPUT POWER
- NO EXTERNAL COMPONENTS REQUIRED
- INTERNAL FILTERING
- 100% BURNED IN
- HIGH EFFICIENCY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS		INPUT SPECIFICATIONS	
Voltage Setpoint Accuracy	+/-2%max	Input Voltage Range	2:1 Input Range
Temperature Coefficient	+/-0.03%/ °C	Input Filter	Pi Network
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	Efficiency	70% min
Minimum Load	20% of Full Load	Isolation Voltage ⁴	1000VDC min
Short Circuit Protection	Continuous	Isolation Resistance	10 ⁹ ohms min
Short Circuit Restart	Automatic	Isolation Capacitance	80pF max
Over Load Protection	120% Typ	Switching Frequency	75 KHz min
Transient Response ⁵	200uS max	MTBF ⁶	>700,000 Hours
ENVIRONMENTAL SPECIFICATIONS		Weight	6.6g Typ
Operating Temperature	-25 °C to +70 °C	Case Material	Non-Conductive Plastic
Storage Temperature	-55 °C to +100 °C	Case Size	31.8mm*8.6mm*14.5mm
Humidity	95% max	Potting Material	Epoxy(UL94-V0)
Cooling	Free-Air Convection	Conducted Emissions	EN55022 Class A
		Radiated Emissions	EN55022 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 3 seconds.

⁵ 25% Step Load Change.

⁶ MIL-HDBK-217F @25 °C, Ground Benign.

DANUBE

<http://www.danube.com.tw>

● **SELECTION GUIDE**
1.5W-2W OUTPUT

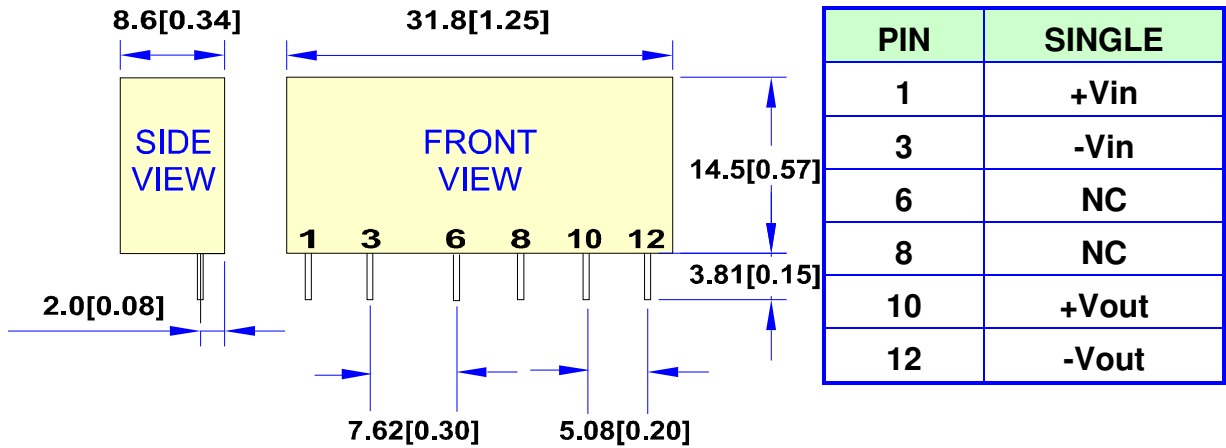
MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁷		EFF (%) ⁸	ISOLATION (VDC)
				CURRENT(mA)			
				FULL LOAD	NO LOAD		
1WS-0505	4.5-9	5	300	429	40	70	1000
1WS-0509	4.5-9	9	200	500	40	72	1000
1WS-0512	4.5-9	12	150	500	40	72	1000
1WS-0515	4.5-9	15	120	500	40	72	1000
1WS-1205	9-18	5	400	222	20	75	1000
1WS-1209	9-18	9	222	225	20	74	1000
1WS-1212	9-18	12	168	213	20	78	1000
1WS-1215	9-18	15	133	213	20	78	1000
1WS-2405	18-36	5	400	112	12	74	1000
1WS-2409	18-36	9	222	111	13	75	1000
1WS-2412	18-36	12	168	107	11	78	1000
1WS-2415	18-36	15	133	107	11	78	1000
1WS-4805	36-72	5	400	56	8	74	1000
1WS-4809	36-72	9	222	55	8	75	1000
1WS-4812	36-72	12	168	54	8	78	1000
1WS-4815	36-72	15	133	54	8	78	1000

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

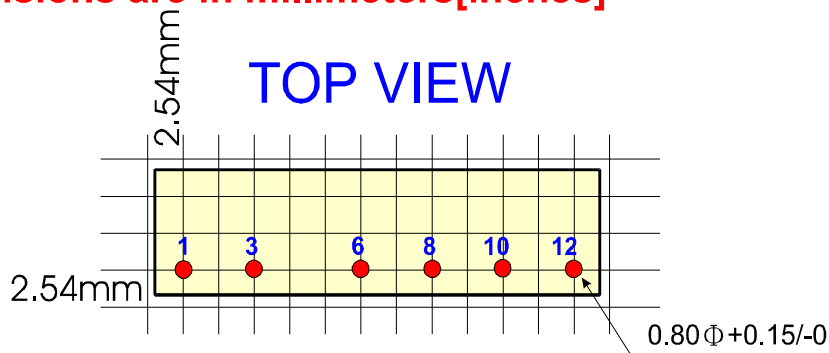
⁷ NOMINAL INPUT VOLTAGE.

⁸ NOMINAL INPUT VOLTAGE, FULL LOAD.

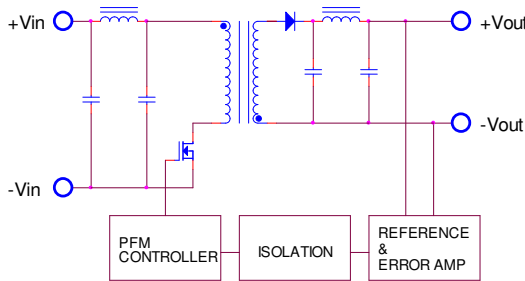
MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



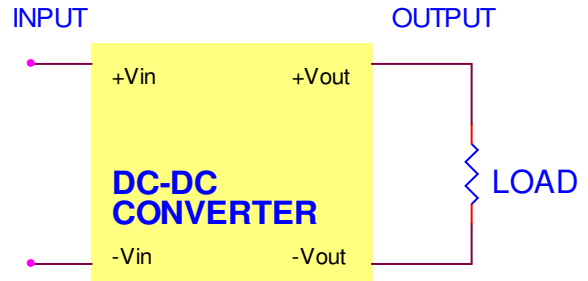
All dimensions are in millimeters[inches]



SIMPLIFIED SCHEMATIC



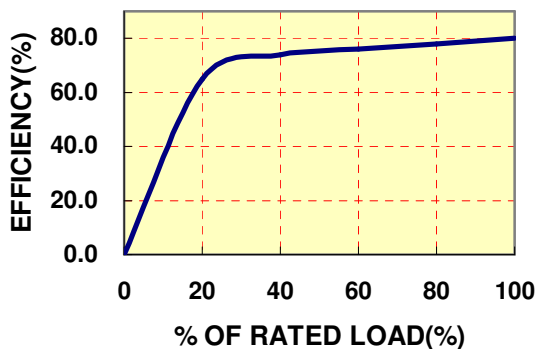
TYPICAL APPLICATIONS



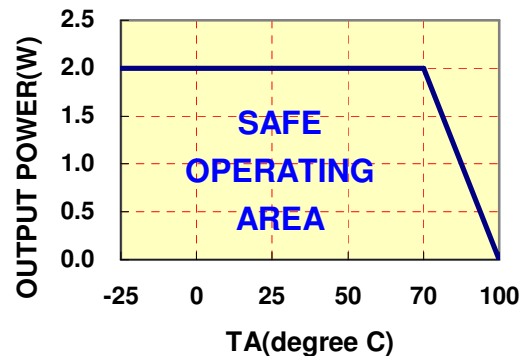
TYPICAL PERFORMANCE CURVES

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

4.5-9V INPUT VOLTAGE(VDC)	9-18V INPUT VOLTAGE(VDC)	18-36V INPUT VOLTAGE(VDC)	36-72V INPUT VOLTAGE(VDC)
1000mA Slow-Blow Type	400mA Slow-Blow Type	200mA Slow-Blow Type	100mA Slow-Blow Type

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

1W SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the 1W series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 100KHz is required.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 220uF.

We Can Offer EMC-Filter According To EN55011/22 Class B.

Negative Outputs:

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

FOR MORE INFORMATION CALL:

Danube Enterprise Co., Ltd.

Tel: 886-7-3755163

Fax: 886-7-3755330

E-mail: danube@ms10.hinet.net

Home Page

<http://www.danube.com.tw>
