

# OSNxxW SERIES

Single Output 1.25-4Amp

Non-Isolated DC-DC CONVERTER

# DANUBE

## FEATURES

- 5-24VOUT / 1.25-4AMP SIP PACKAGE
- 20-53V,30-53V INPUT VOLTAGE
- 100% BURNED IN
- HIGH EFFICIENCY
- RoHS COMPLIANT
- COST-EFFECTIVE OPEN FRAME DESIGN
- 2 YEARS WARRANTY



## OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy <sup>1</sup>	+/-2% max
Ripple & Noise(20MHz BW)	5V 100mVp-p max 12V-24V 1%Vp-p max
Line Regulation <sup>2</sup>	+/-0.5% max
Load Regulation <sup>3</sup>	+/-0.5% max
Temperature Coefficient	+/-0.05%/°C
Short Circuit Protection	Continuous
Over Load Protection	120%~300% Typ.

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Ambient <sup>4</sup>	-40 °C to +70°C (with derating)
Storage Temperature	-55° C to +125° C

## INPUT SPECIFICATIONS

Input Voltage Range	20~53V,30~53V
Remote ON/OFF Control	Table 1
Input Filter Type	Capacitive
Protection	Fuse Recommended

## GENERAL SPECIFICATIONS

Efficiency	90% min.
Switching Frequency	250KHz Typ.
Isolation voltage	Non-isolation
Weight	OSN02W-xxSxx 7.5 g Typ. OSN04W-xxSxx 12.0 g Typ.
SIP Package	OSN02W-xxSxx 50.8mm*13.0mm*10.7mm OSN04W-xxSxx 50.8mm*26.0mm*10.7mm

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

<sup>1</sup> The value includes the deviation from output voltage setting point ,line and load.

<sup>2</sup> High Line to Low Line.

<sup>3</sup> Load Regulation is for output load current change from 10% to 100% Load.

<sup>4</sup> Refer to the Derating Chart.

## ● SELECTION GUIDE(1)

### 1.25-2.5Amp SIP PACKAGES

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 (A)	INPUT <sup>5</sup> CURRENT(mA)		EFF (%) <sup>6</sup>	PACKAGE
				FULL LOAD	NO LOAD		
OSN02W-24S12	20-53	12	2.5A	1302	14	96	A
OSN02W-24S15	20-53	15	2A	1302	15	96	A
OSN02W-48S24	30-53	24	1.25A	664	30	94	A

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

**Note1.**

MODEL NUMBER	External with input capacitor	External with output capacitor (max)
OSN02W-24S05	27uF/100V (CHEMICON KY series) Or 2.2uF/100V X7R (MLCC 1812)	100uF/25V (CHEMICON KY series)
OSN02W-24S12		68uF/16V (CHEMICON KZE series)
OSN02W-24S15		47uF/50V (CHEMICON KY series)
OSN02W-48S24		47uF/50V (CHEMICON KY series)

## ● SELECTION GUIDE(2)

### 2.5-4Amp SIP PACKAGES

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 (A)	INPUT <sup>7</sup> CURRENT(mA)		EFF (%) <sup>8</sup>	PACKAGE
				FULL LOAD	NO LOAD		
OSN04W-24S12	20-53	12	4A	2105	20	95	B
OSN04W-24S15	20-53	15	4A	2604	20	96	B
OSN04W-48S24	30-53	24	2.5A	1315	30	95	B

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

**Note1.**

MODEL NUMBER	External with input capacitor	External with output capacitor (max)
OSN04W-24S05	27uF/100V (CHEMICON KY series) Or 2.2uF/100V X7R (MLCC 1812)	100uF/25V (CHEMICON KY series)
OSN04W-24S12		68uF/16V (CHEMICON KZE series)
OSN04W-24S15		47uF/50V (CHEMICON KY series)
OSN04W-48S24		47uF/50V (CHEMICON KY series)

<sup>5</sup> NOMINAL INPUT VOLTAGE.

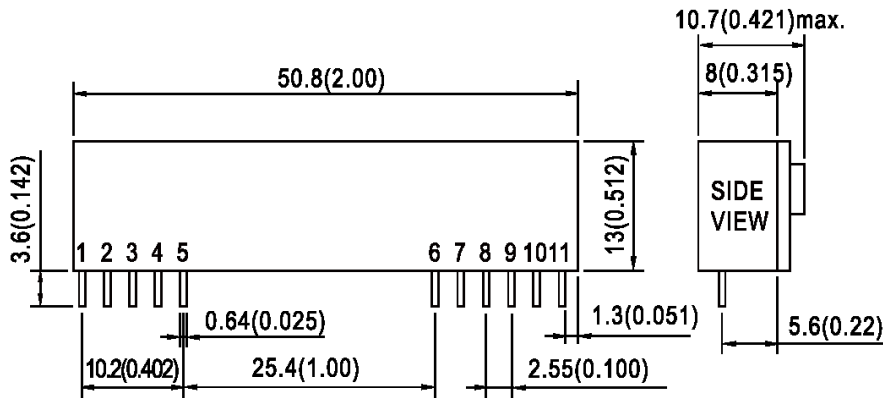
<sup>6</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

<sup>7</sup> NOMINAL INPUT VOLTAGE.

<sup>8</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

## MECHANICAL DIMENSIONS

### OSN02W-xxSxx SERIES PACKAGE "A"



All dimensions are in millimeters [inches]

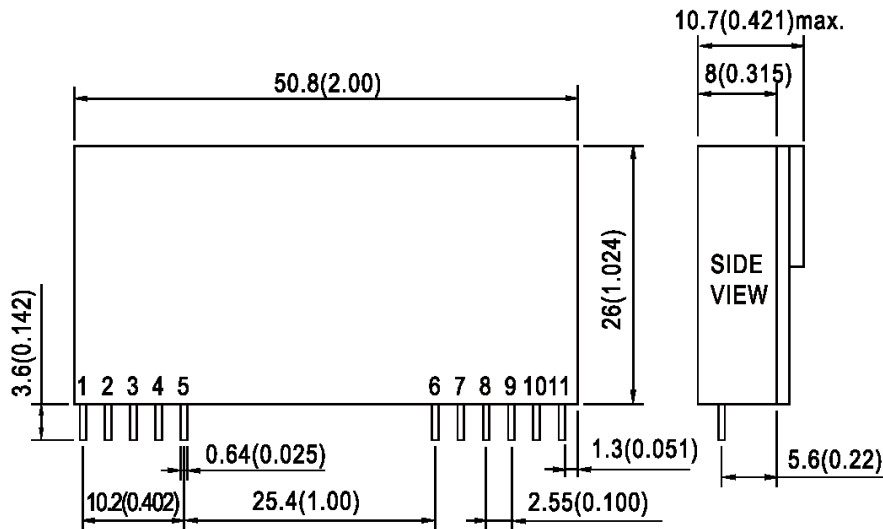
PIN	SINGLE
1	+Vout
2	+Vout
3	+Vout
4	+Vout
5	Common
6	Common
7	+Vin
8	+Vin
9	NC
10	NC
11	On/Off Control

NOTE : Pin Size is Tolerance  $0.64\Phi \pm 0.10\text{mm}$

All Dimensions In mm(Inches)

Tolerance .X or .XX =  $\pm 0.5\text{mm}$

### OSN04W-xxSxx SERIES PACKAGE "B"



All dimensions are in millimeters [inches]

PIN	SINGLE
1	+Vout
2	+Vout
3	+Vout
4	+Vout
5	Common
6	Common
7	+Vin
8	+Vin
9	NC
10	NC
11	On/Off Control

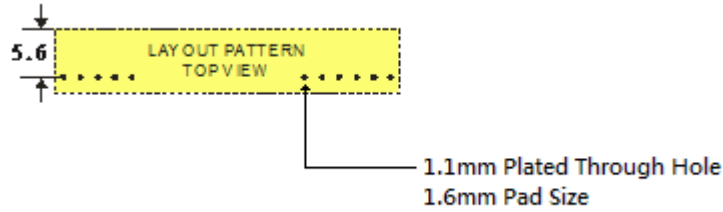
NOTE : Pin Size is Tolerance  $0.64\Phi \pm 0.10\text{mm}$

All Dimensions In mm(Inches)

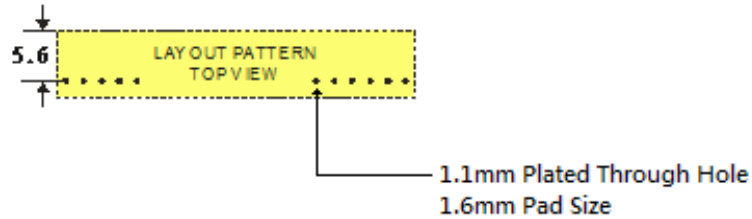
Tolerance .X or .XX =  $\pm 0.5\text{mm}$

## ● RECOMMENDED FOOTPRINT DETAILS

### OSN02W-xxSxx SERIES PACKAGE "A"



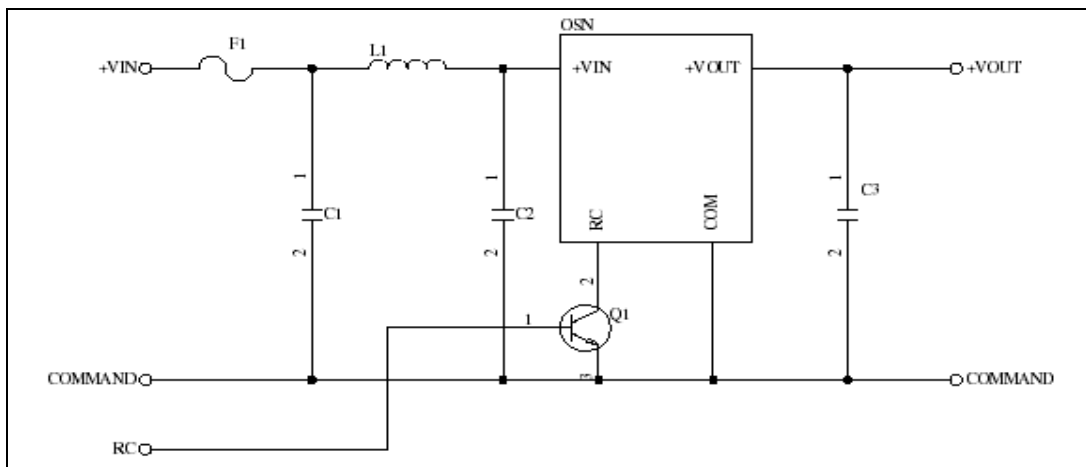
### OSN04W-xxSxx SERIES PACKAGE "B"



## ● Table1 (Remote On/Off Control)

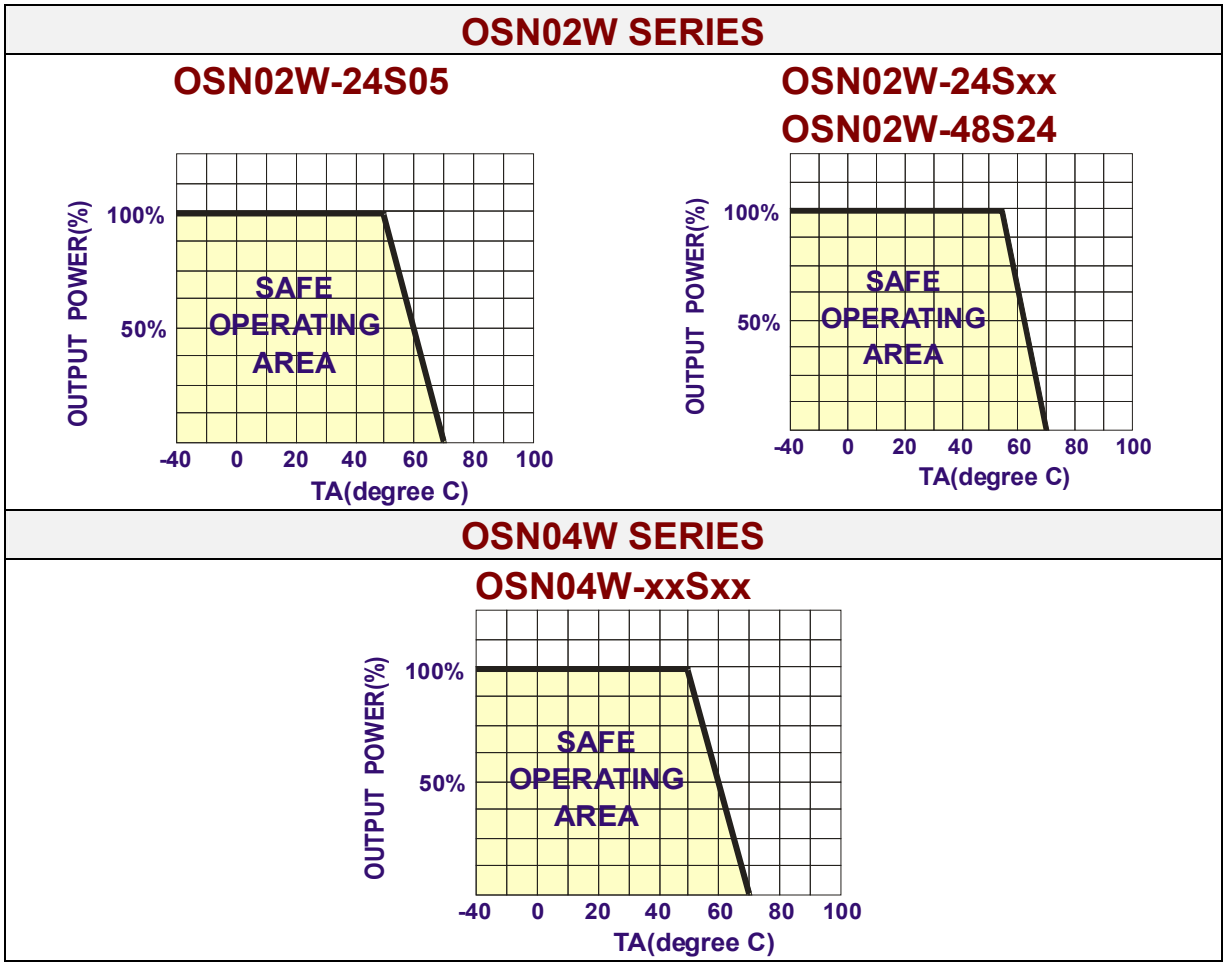
Remote On/Off Control Voltage	
Output Power ON	3.3~12Vdc or open circuit
Output Power OFF	0~0.4Vdc or short circuit pin11 and 5,6

## ● TECHNICAL NOTES

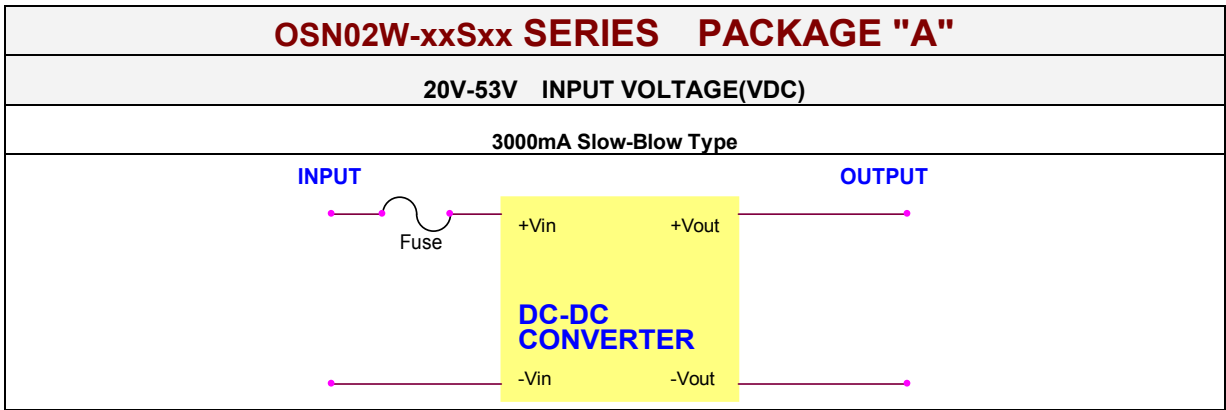


	OSN02W-xxSxx	OSN04W-xxSxx
<b>F1</b>	3000mA SLOW-BLOW TYPE	5000mA SLOW-BLOW TYPE
<b>L1</b>	SCD0503 2.2 uH	SCD0503 1.0 uH
<b>C1</b>	27uF/100V (CHEMICON KY series)	27uF/100V (CHEMICON KY series)
<b>C2</b>	27uF/100V (CHEMICON KY series)	27uF/100V (CHEMICON KY series)
<b>C3</b>	47uF/50V (CHEMICON KY series)	47uF/50V (CHEMICON KY series)
<b>Q1</b>	ON/OFF pin open: Logic High = DC/DC converter On ON/OFF pin <0.4V: Logic Low = DC/DC converter Off	ON/OFF pin open: Logic High = DC/DC converter On ON/OFF pin <0.4V: Logic Low = DC/DC converter Off

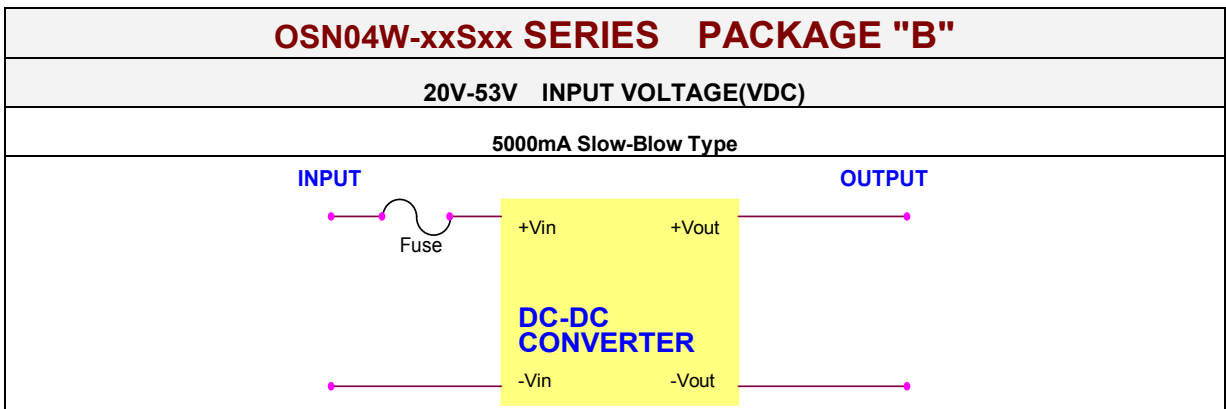
● **DERATING CURVE**



● **INPUT FUSE SELECTION GUIDE**



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



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**FOR MORE INFORMATION CALL:**

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