

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Ambient ⁴	-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.

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

² High Line to Low Line.

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

⁴ Refer to the Derating Chart.

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● 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 ⁵ CURRENT(mA)		EFF (%) ⁶	PACKAGE
				FULL LOAD	NO LOAD		
OSN02W-24S05	20-53	5	2.5A	578	15	90	A
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 ⁷ CURRENT(mA)		EFF (%) ⁸	PACKAGE
				FULL LOAD	NO LOAD		
OSN04W-24S05	20-53	5	4A	925	15	90	B
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)

⁵ NOMINAL INPUT VOLTAGE.

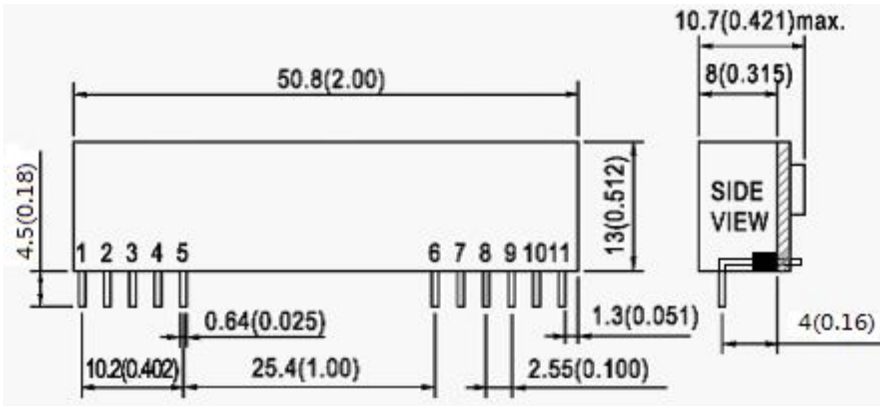
⁶ NOMINAL INPUT VOLTAGE, FULL LOAD.

⁷ NOMINAL INPUT VOLTAGE.

⁸ NOMINAL INPUT VOLTAGE, FULL LOAD.

● MECHANICAL DIMENSIONS

OSN02W-xxSxx SERIES PACKAGE "A"



All dimensions are in millimeters [inches]

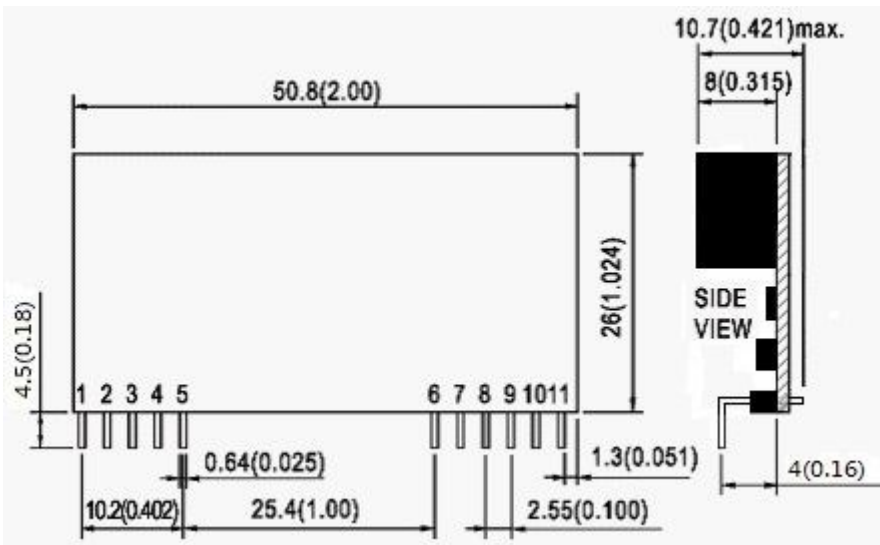
PIN	SINGLE
1	+Vout
2	+Vout
3	+Vout
4	+Vout
5	Common
6	Common
7	+Vin
8	+Vin
9	NC
10	NC
11	On/Off Control

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

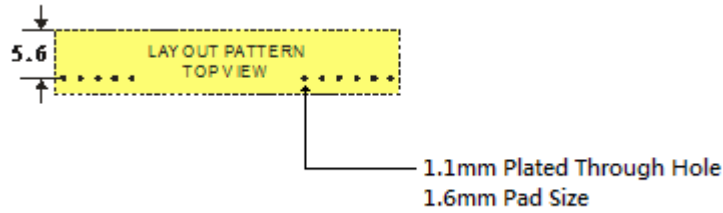
NOTE : Pin Size is Tolerance $0.64\Phi \pm 0.10\text{mm}$

All Dimensions In mm(Inches)

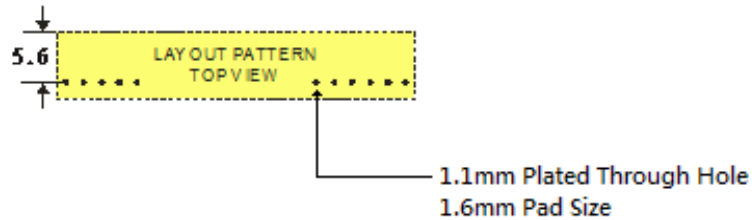
Tolerance .X or .XX= $\pm 0.5\text{mm}$

● RECOMMENDED FOOTPRINT DETAILS

OSN02W-xxSxx SERIES PACKAGE "A"



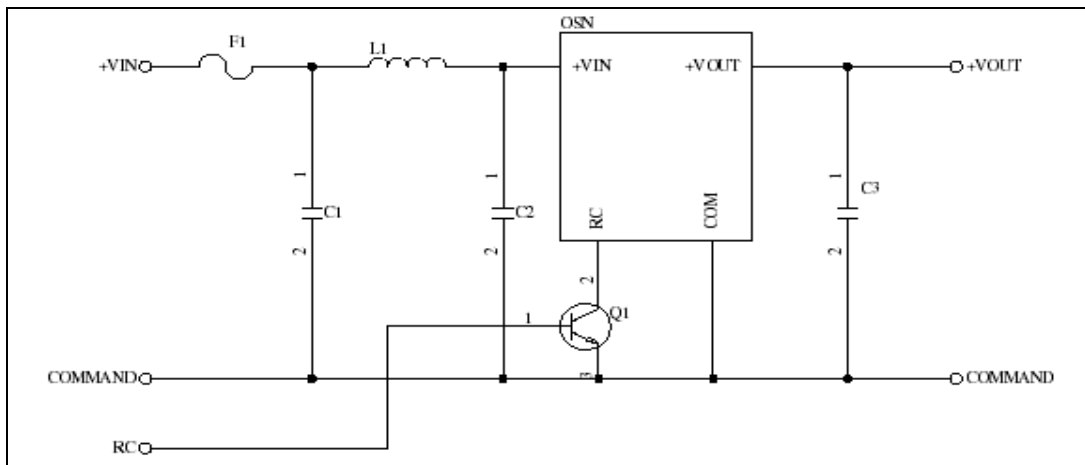
OSN04W-xxSxx SERIES PACKAGE "B"



● Table1 (Remote On/Off Control)

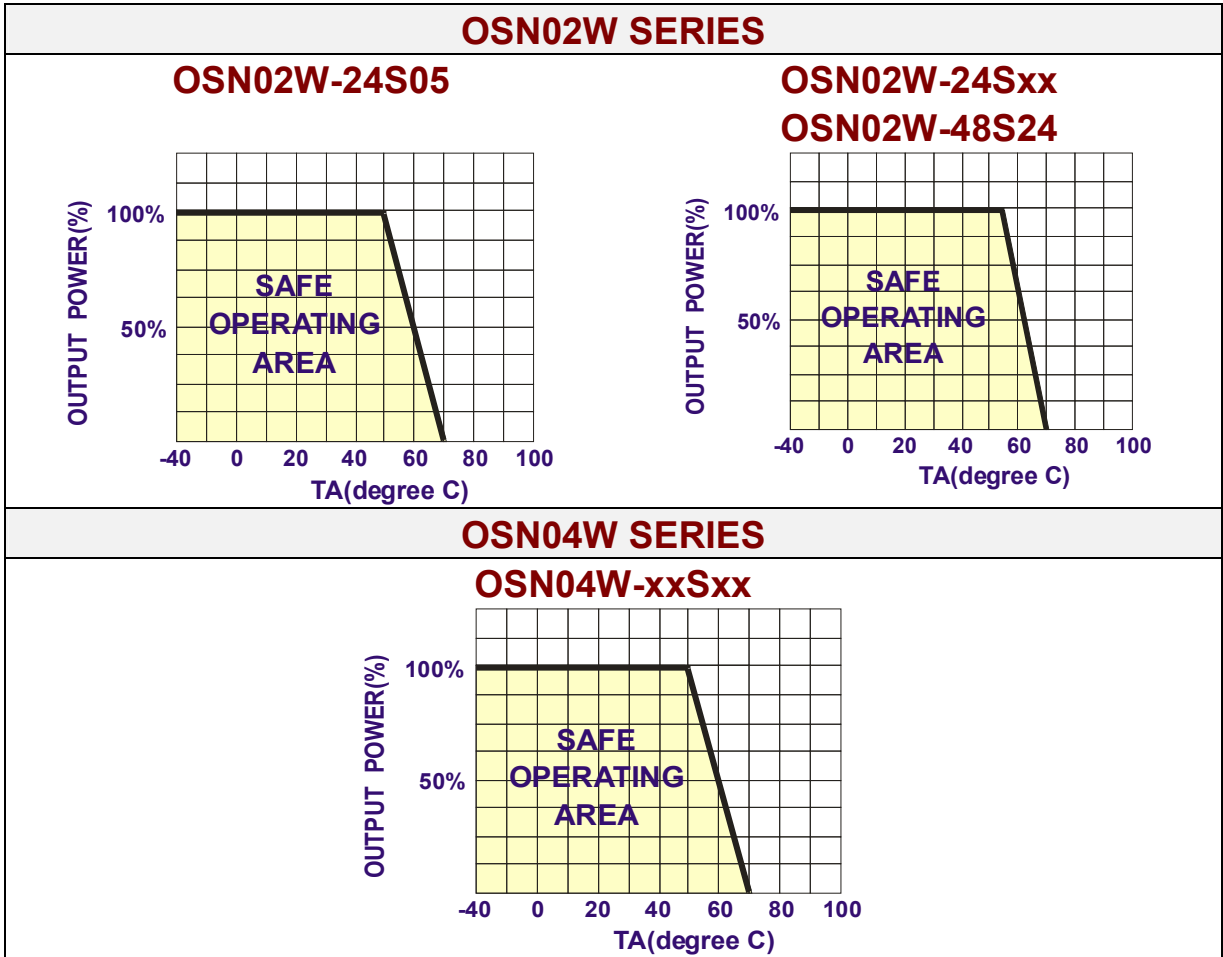
Remote On/Off Control Voltage	
Output Power ON	3.3~12Vdc or open circuit
Output Power OFF	0~0.4Vdc or short circuit pin11 and 5,6

● TECHNICAL NOTES

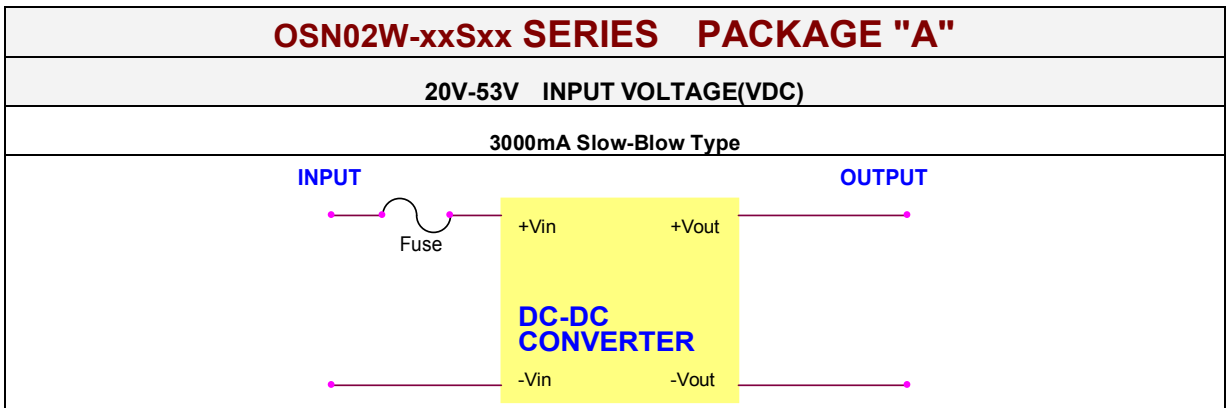


	OSN02W-xxSxx	OSN04W-xxSxx
F1	3000mA SLOW-BLOW TYPE	5000mA SLOW-BLOW TYPE
L1	SCD0503 2.2 uH	SCD0503 1.0 uH
C1	27uF/100V (CHEMICON KY series)	27uF/100V (CHEMICON KY series)
C2	27uF/100V (CHEMICON KY series)	27uF/100V (CHEMICON KY series)
C3	47uF/50V (CHEMICON KY series)	47uF/50V (CHEMICON KY series)
Q1	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

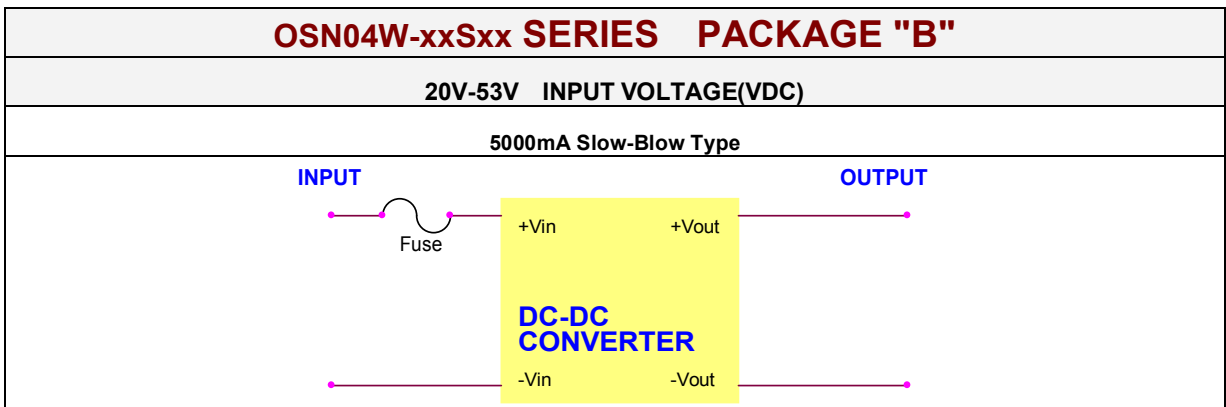
● **DERATING CURVE**



● 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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