

## Features

## Regulated Converters

Rev.0

- DIP24 Low Profile Miniature Package
- 1kVDC Isolation
- Feedback Regulated Output
- 2:1 Wide Range Voltage Input
- Continuous Short Circuit Protection
- Less than 7mm Height
- SMD Pinning Option
- Efficiency to 87 %

## ECONOLINE

DC/DC-Converter

# RW-xxxxS Series

3 Watt

DIP24/SMD

Low Profile

Package

Single Output

## Description

The RW series with 2:1 input voltage ranges and max. height of 7,0 mm has been designed for the industrial automation markets. They are aimed at applications where pcb-space is at a premium so SMD pinning is also available. The converters supply the full 3 watts without additional heat-sinks over the temperature range -40°C to +80°C.

## Selection Guide

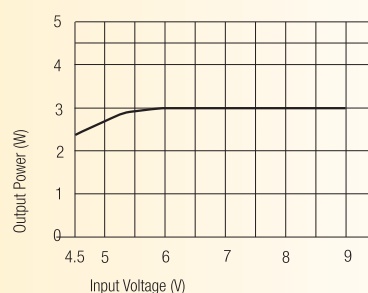
Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
DIP24 Miniature				
RW-053.3S	4.5 – 9	3.3	650	68
RW-0505S	4.5 – 9	5	600	69
RW-0509S	4.5 – 9	9	333	70
RW-0512S	4.5 – 9	12	250	72
RW-0515S	4.5 – 9	15	200	73
RW-123.3S	9 – 18	3.3	650	70
RW-1205S	9 – 18	5	600	73
RW-1209S	9 – 18	9	333	78
RW-1212S	9 – 18	12	250	79
RW-1215S	9 – 18	15	200	79
RW-243.3S	18 – 36	3.3	650	75
RW-2405S	18 – 36	5	600	78
RW-2409S	18 – 36	9	333	82
RW-2412S	18 – 36	12	250	84
RW-2415S	18 – 36	15	200	85
RW-483.3S	36 – 72	3.3	650	73
RW-4805S	36 – 72	5	600	78
RW-4809S	36 – 72	9	333	82
RW-4812S	36 – 72	12	250	84
RW-4815S	36 – 72	15	200	85

\* add suffix "/SMD" for SMD package, e.g. RW-2405S/SMD



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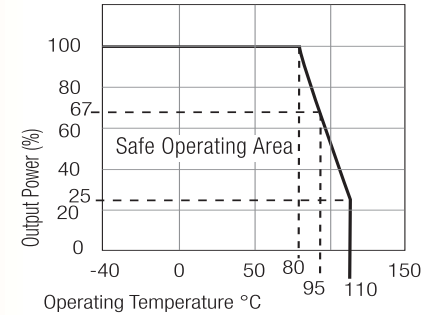
## RW-05xx types



**Specifications (Core Operating Area)**

Input Voltage Range	2:1		
Output Voltage Accuracy	±2% max.		
Line Voltage Regulation	±0.2% typ.		
Load Voltage Regulation (10% to 100% full load)	±0.5% max.		
Output Ripple and Noise (20MHz limited)	70mVp-p max.		
Operating Frequency	85kHz min. / 100kHz typ.		
Efficiency at Full Load	See Selection Guide		
No Load Power Consumption	250mW max.		
Isolation Voltage	(tested for 1 second)	1000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Capacitance	40pF min. / 60pF max.		
Isolation Resistance	1 GΩ min.		
Short Circuit Protection	Continuous		
Operating Temperature Range (free air convection)	-40°C to +80°C (see Graph)		
Storage Temperature Range	-55°C to +125°C		
Relative Humidity	95% RH		
Package Weight	DIP24	7g	
	SMD	7.7g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1034 x 10 <sup>3</sup> hours
(+80°C)		using MIL-HDBK 217F	186 x 10 <sup>3</sup> hours

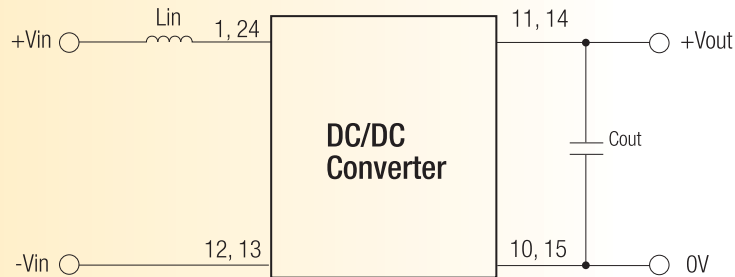
**Derating-Graph**  
(Ambient Temperature)



**Standard Filter Circuit**

use low ESR capacitor Cout and input inductor Lin to reduce output ripple and input inrush current.

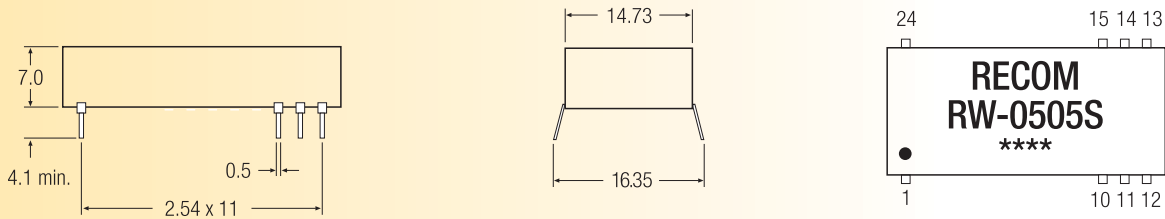
<b>Lin</b>	RW- types	4.7uH ~ 100uH
<b>Cout</b>	RW- types	22uF ~ 100uF/25V



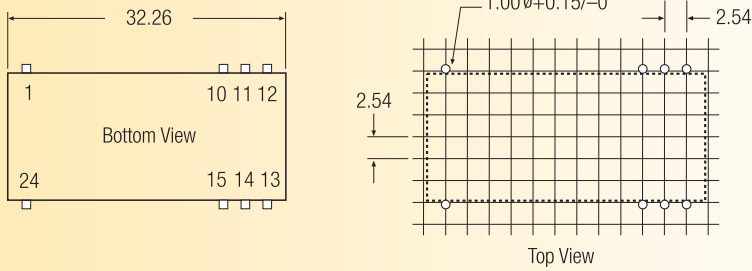
**Package Style and Pinning (mm)**



**24 PIN DIP Miniature Package Style**



**Recommended Footprint Details**

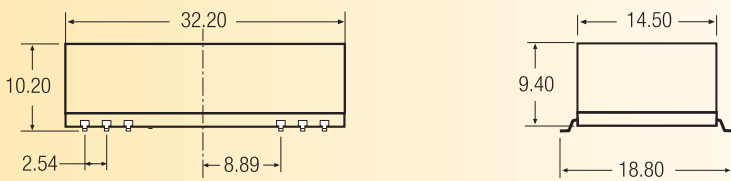


**Pin Connections**

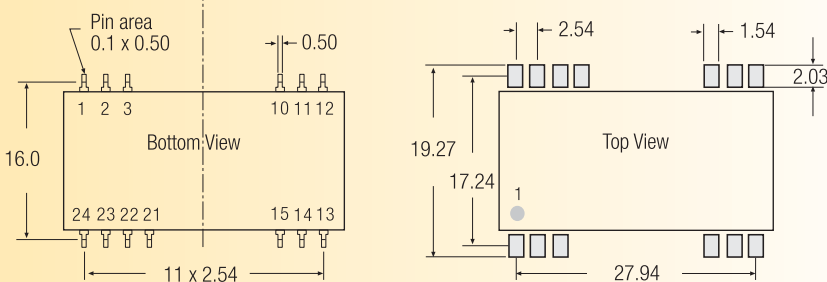
Pin #	Single
1 & 24	+Vin
10 & 15	-Vout
11 & 14	+Vout
12 & 13	-Vin

NC = No Connection  
XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

**24 PIN SMD Miniature Package Style**



**Recommended Footprint Details**



**Pin Connections**

Pin #	Single
1 & 24	+Vin
10 & 15	-Vout
11 & 14	+Vout
12 & 13	-Vin
others	NC

NC = No Connection  
XX.X ± 0.5 mm  
XX.XX ± 0.25 mm