

## Features

### Regulated Converters

- DIP24 Miniature Package
- 2:1 Wide Range Voltage Input
- 1kVDC Isolation
- UL94V-0 Package Material
- Continuous Short Circuit Protection
- Less than 7mm Height
- Cost Effective
- Short Lead Time
- No External Capacitor needed
- Efficiency to 88%

## ECONOLINE

DC/DC-Converter

# RW-xxxxS Series

**3 Watt  
DIP24/SMD  
Low Profile  
Package  
Single Output**

### Selection Guide

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

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

### Description

The RW series with 2:1 input voltage ranges and max. height of 7,0 mm has been designed for the telecom - and industrial automation markets. They are particularly aimed at applications where pcb-space is at a premium, still requiring industrial standard pinning. 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.

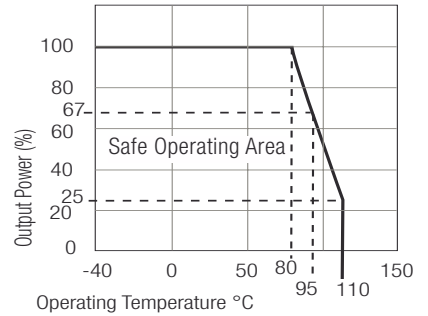


**RECOM**

**Specifications (Core Operating Area)**

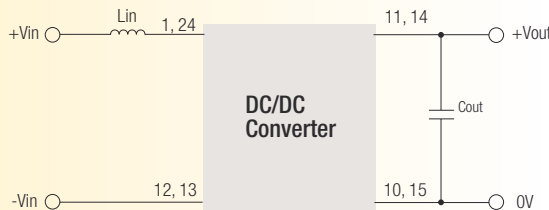
Input Voltage Range		2:1	
Output Voltage Accuracy		±2% max.	
Line Voltage Regulation		±0.2% typ.	
Load Voltage Regulation (10% to 100% full load)		±0.5% max.	
Output Ripple and Noise (20MHz limited)		70mVp-p max.	
Operating Frequency		85kHz min. / 100kHz typ.	
Efficiency at Full Load		65% min.	
No Load 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)



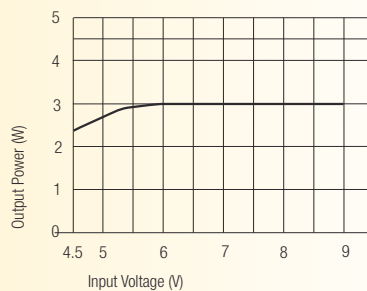
**Standard Application Circuit**

<b>L<sub>in</sub></b>	RW- types	4.7uH ~ 100uH
<b>C<sub>out</sub></b>	RW- types	22uF ~ 100uF/25V



use low ESR capacitor  $C_{out}$  and input inductor  $L_{in}$  to reduce output ripple and input inrush current.

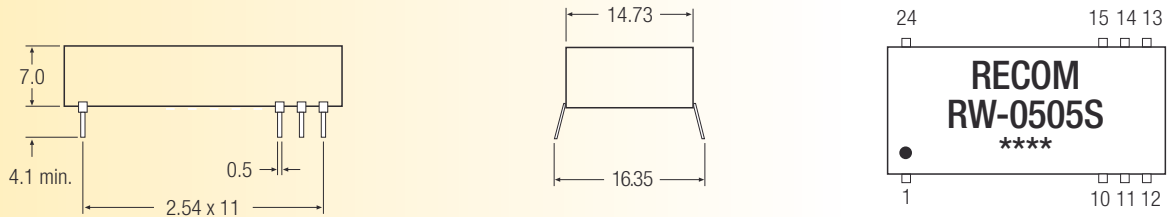
**RW-types**



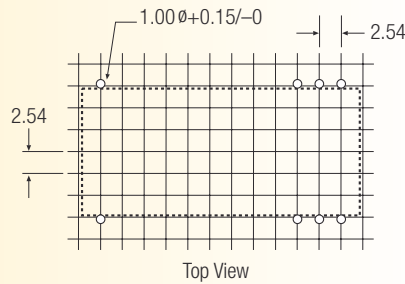
**Package Style and Pinning (mm)**



**24 PIN DIP Miniature Package Style**



**Recommended Footprint Details**

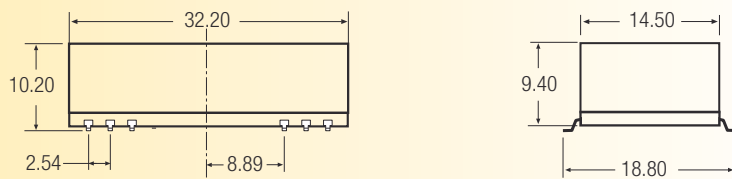


**Pin Connections**

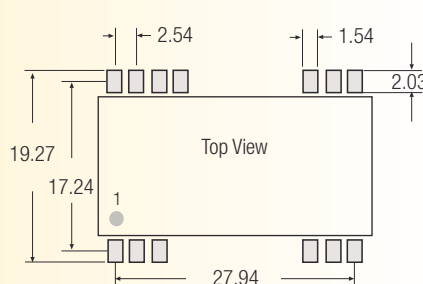
Pin #	Single
1 & 24	+Vin
10 & 15	-Vout
11 & 14	+Vout
12 & 13	-Vin

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