

## Features

### Regulated Converters

- 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 %

### Description

The RW-S 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.

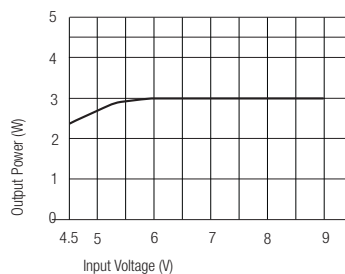
### Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load <sup>(1)</sup>
RW-053.3S	4.5 – 9	3.3	650	68	4700µF
RW-0505S	4.5 – 9	5	600	69	4700µF
RW-0509S	4.5 – 9	9	333	70	3300µF
RW-0512S	4.5 – 9	12	250	72	2200µF
RW-0515S	4.5 – 9	15	200	73	2200µF
RW-123.3S	9 – 18	3.3	650	70	4700µF
RW-1205S	9 – 18	5	600	73	4700µF
RW-1209S	9 – 18	9	333	78	3300µF
RW-1212S	9 – 18	12	250	79	2200µF
RW-1215S	9 – 18	15	200	79	2200µF
RW-243.3S	18 – 36	3.3	650	75	4700µF
RW-2405S	18 – 36	5	600	78	4700µF
RW-2409S	18 – 36	9	333	82	3300µF
RW-2412S	18 – 36	12	250	84	2200µF
RW-2415S	18 – 36	15	200	85	2200µF
RW-483.3S	36 – 72	3.3	650	73	4700µF
RW-4805S	36 – 72	5	600	78	4700µF
RW-4809S	36 – 72	9	333	82	3300µF
RW-4812S	36 – 72	12	250	84	2200µF
RW-4815S	36 – 72	15	200	85	2200µF

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

RW-S

## RW-05xx types



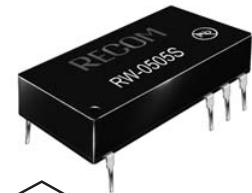
## ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

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



EN-60950-1 Certified

# RW-S

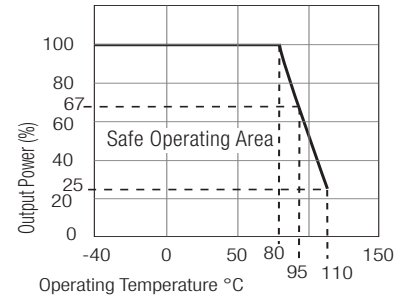
Refer to Application Notes

[www.recom-electronic.com](http://www.recom-electronic.com)

**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.		
Minimum Load	0%		
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) (rated for 1 minute)	1000VDC 500VAC / 60Hz	
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	
Packing Quantity	15 pcs per Tube		
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)



Notes

Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

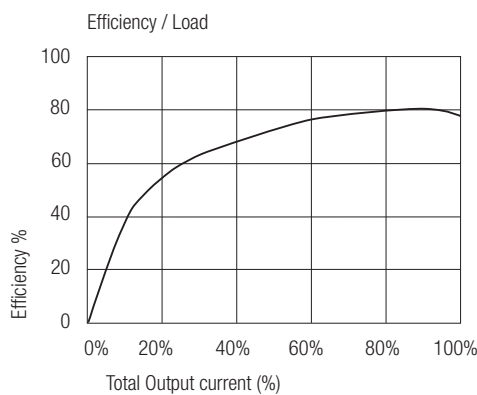
Certifications

EN General Safety Report: PS080501950 EN60950-1:2001 + A11:2004

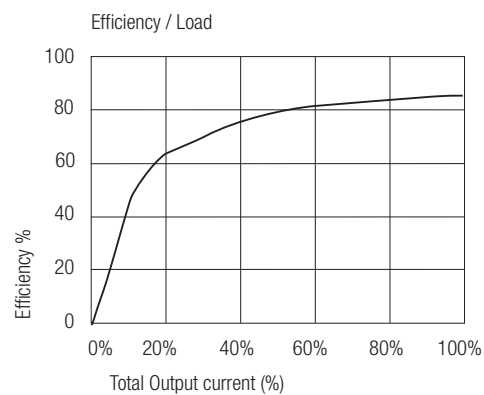
**RW-S**

**Typical Performance**

**RW-1205S**



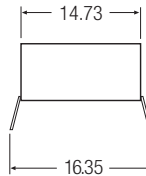
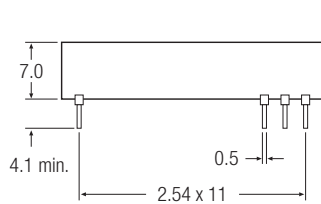
**RW-2412S**



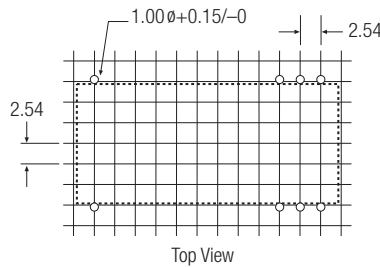
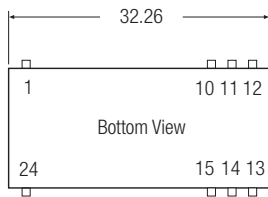
Package Style and Pinning (mm)



24 PIN DIP Miniature Package Style



Recommended Footprint Details



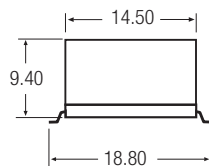
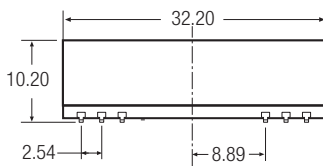
Pin Connections

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

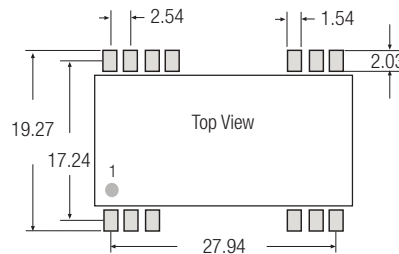
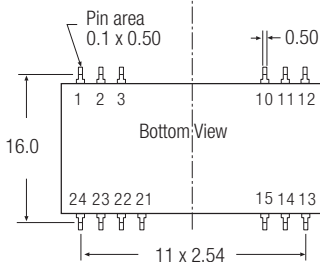
NC = No Connection  
XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

RW-S

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