

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

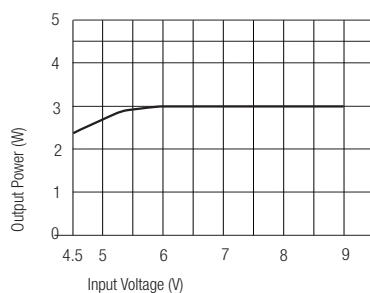
The RW-S series with 2:1 input voltage ranges and max. height of 7,0 mm has been designed for the industrial automation markets. They are aimed at applications where pcb-space is at a premium so SMD pinning is also available. The converters supply the full 3 watts without additional heat-sinks over the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

Selection Guide

| Part Number DIP24 Miniature | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max Capacitive Load ⁽¹⁾ |
|--------------------------------|---------------------|----------------------|---------------------|----------------|------------------------------------|
| 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-05xx types



ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

3 Watt

DIP24/SMD

Low Profile

Package

Single Output

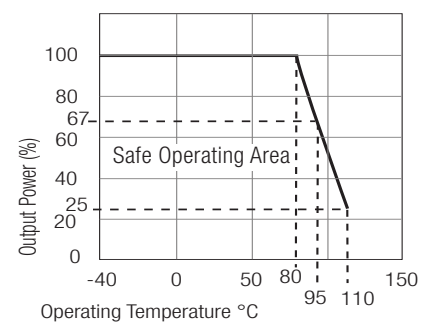


EN-60950-1 Certified

RW-S

Derating-Graph

(Ambient Temperature)



Refer to Application Notes

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 | | 10% ⁽²⁾ | |
| 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 ³ hours |
| (+80°C) | | using MIL-HDBK 217F | 186 x 10 ³ hours |
| Certifications | | | |
| EN General Safety | Report: SPCLVD1212007 | | EN60950-1:2006 + A11:2009+A1:2010+A12:2011 |
| EN Medical Safety | Report: MDD1205098-3 + RM1205098-3 | IEC/EN 60601-1 3rd Edition | Medical Report + ISO14971 Risk Assessment |

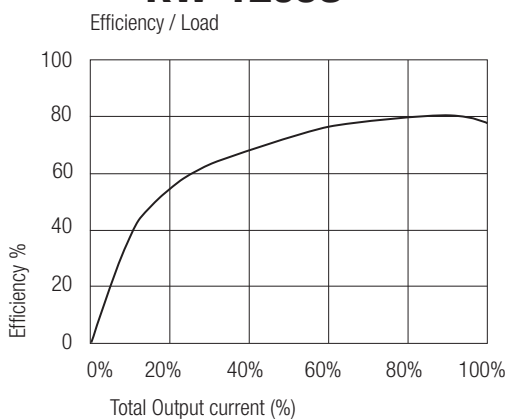
**Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

Notes

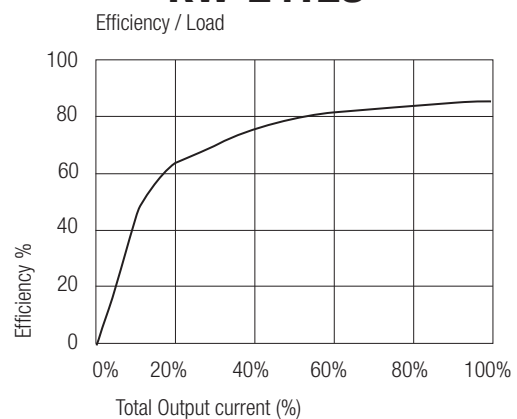
- Note 1: Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter
- Note 2: The RW-S series requires a minimum of 10% load on the output to maintain specified regulation. Operating under no-load conditions will not damage these devices; however, they may not meet all listed specifications.

Typical Performance

RW-1205S

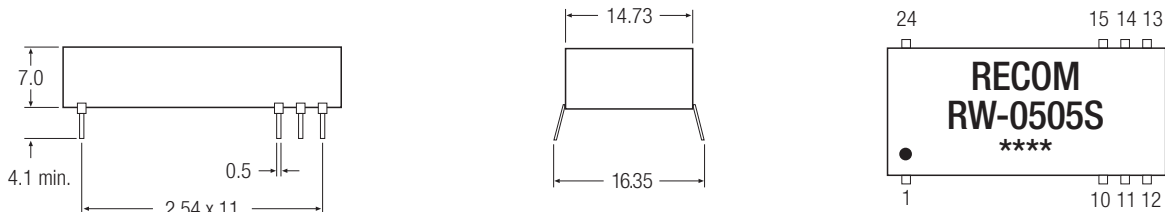


RW-2412S

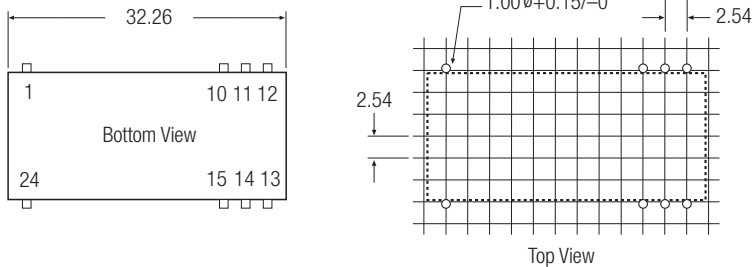


Package Style and Pinning (mm)

24 PIN DIP Miniature Package Style



Recommended Footprint Details

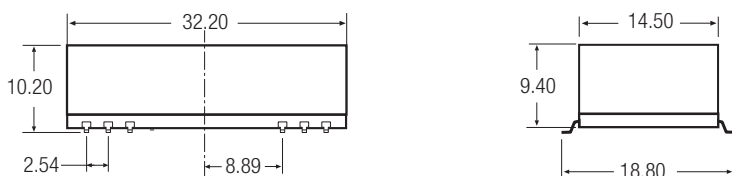


Pin Connections

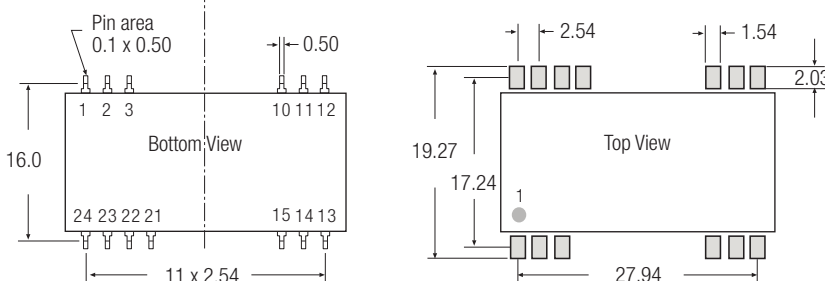
| Pin # | Single |
|---------|--------|
| 1 & 24 | +Vin |
| 10 & 15 | -Vout |
| 11 & 14 | +Vout |
| 12 & 13 | -Vin |

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

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

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