

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

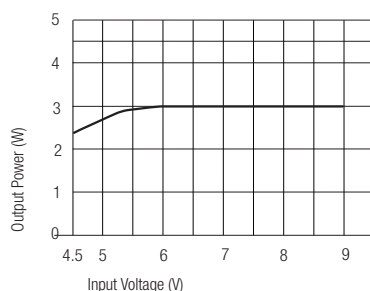
The RW-S series with 2:1 input voltage ranges and max. height of 7,0 mm has been designed for the industrial automation markets. They are aimed at applications where pcb-space is at a premium so SMD pinning is also available. The converters supply the full 3 watts without additional heat-sinks over the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

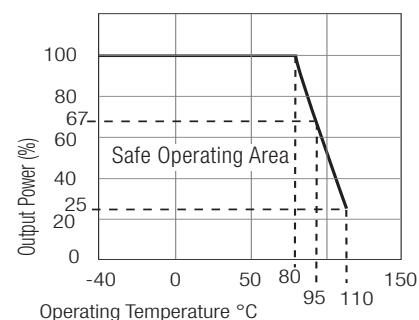
3 Watt DIP24/SMD Low Profile Package Single Output



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

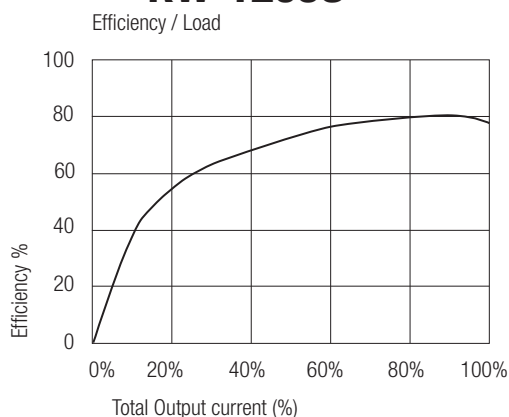
**Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

Notes

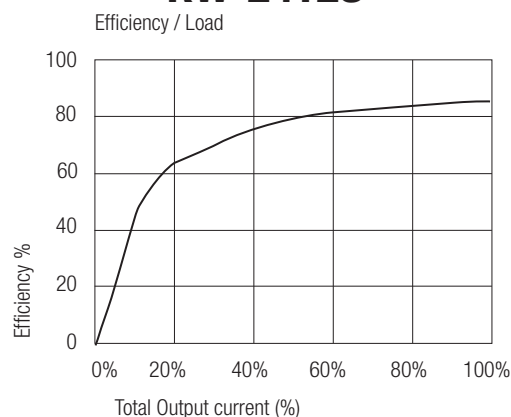
Note 1:	Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter
Note 2:	The RW-S series requires a minimum of 10% load on the output to maintain specified regulation. Operating under no-load conditions will not damage these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

Typical Performance

RW-1205S

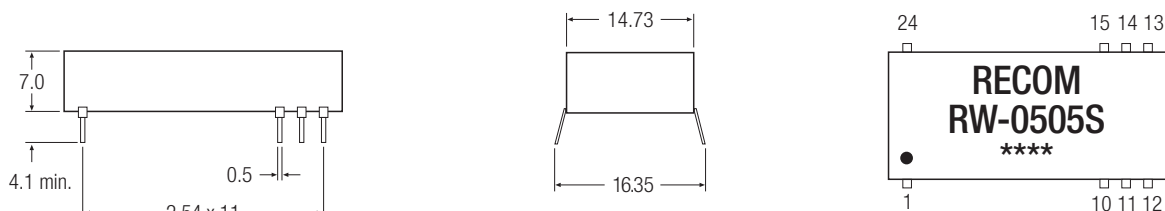


RW-2412S

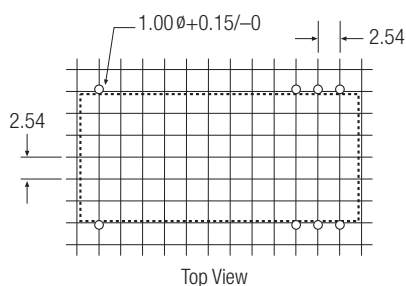
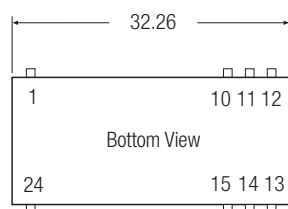


Package Style and Pinning (mm)

24 PIN DIP Miniature Package Style



Recommended Footprint Details

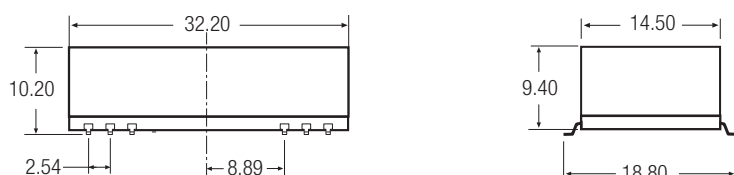


Pin Connections

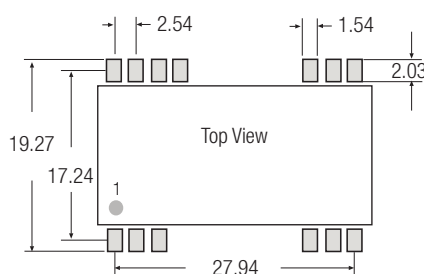
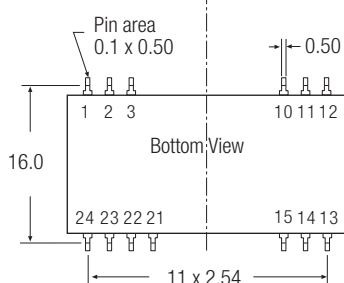
Pin #	Single
1 & 24	+Vin
10 & 15	-Vout
11 & 14	+Vout
12 & 13	-Vin

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