

# Features

- 3kVDC isolation
- DIP24 low profile package
- UL94V-0 package material
- Short circuit protected
- IEC/EN60950-1 certified
- Dual outputs from a single supply

# Regulated Converters

## RW-D

**3 Watt  
DIP24  
Dual Output**



IEC/EN60950-1 certified  
EN55032 compliant

## Description

The RW-D series with 2:1 input voltage ranges and maximum height of 7.0 mm has been designed for industrial automation markets where a dual output rail needs to be generated from a single rail source. The converters supply the full 3 Watts without additional heat-sinks over the temperature range -40°C to +85°C.

## Selection Guide

Part Number	nom. Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. <sup>(1)</sup> [%]	max. Capacitive Load <sup>(2)</sup> [µF]
RW-0505D	4.5-9	±5	±300	71	±2200
RW-0509D	4.5-9	±9	±167	73	±1000
RW-0512D	4.5-9	±12	±125	74	±1000
RW-0515D	4.5-9	±15	±100	75	±1000
RW-1205D	9-18	±5	±300	76	±2200
RW-1209D	9-18	±9	±167	80	±1000
RW-1212D	9-18	±12	±125	83	±1000
RW-1215D	9-18	±15	±100	83	±1000
RW-2405D	18-36	±5	±300	78	±2200
RW-2409D	18-36	±9	±167	81	±1000
RW-2412D	18-36	±12	±125	85	±1000
RW-2415D	18-36	±15	±100	85	±1000
RW-4805D	36-72	±5	±300	78	±2200
RW-4809D	36-72	±9	±167	82	±1000
RW-4812D	36-72	±12	±125	84	±1000
RW-4815D	36-72	±15	±100	84	±1000

### Notes:

- Note1: Efficiency is tested at nominal input and full load at +25°C ambient  
 Note2: Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage on the converter

## Model Numbering



### Ordering Examples:

RW-0505D	4.5-9Vin	±5Vout	Dual
RW-1212D	9-18Vin	±12Vout	Dual
RW-2415D	18-36Vin	±15Vout	Dual

**Specifications** (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

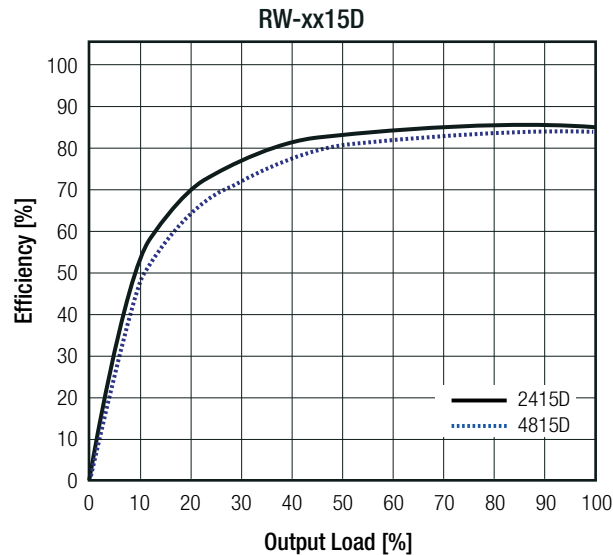
BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	5VDC	4.5VDC		9VDC
	12VDC	9VDC		18VDC
	24VDC	18VDC		36VDC
	48VDC	36VDC		72VDC
Minimum Load <sup>(3)</sup>	nom. Vin=	10%		
Internal Operating Frequency			100kHz	150kHz
Output Ripple and Noise <sup>(4)</sup>	20MHz BW			50mVp-p

**Notes:**

Note3: Operation below 10% load won't harm the converter, but specifications may not be met

Note4: Measurements are made with a 0.1µF MLCC across output. (low ESR)

**Efficiency vs. Load**



REGULATIONS		
Parameter	Condition	Value
Output Accuracy		±1.0% typ. / ±2.0% max
Line Regulation		±0.1% typ. / ±0.2% max.
Load Regulation	10% to 100% load	0.2% typ. / 0.5% max.

PROTECTIONS		
Parameter	Type	Value
Short Circuit Protection	below 100mΩ	continuous, auto recovery
	tested for 1 second	3kVDC
Isolation Voltage <sup>(3)</sup>	rated for 1 minute	1.5kVAC/60Hz
		1GΩ min.
Isolation Resistance		1GΩ min.
Isolation Capacitance		20pF min. / 40pF typ. / 60pF max.
Insulation Grade		functional

**Notes:**

Note5: For repeat Hi-Pot testing, reduce the time and/or the test voltage

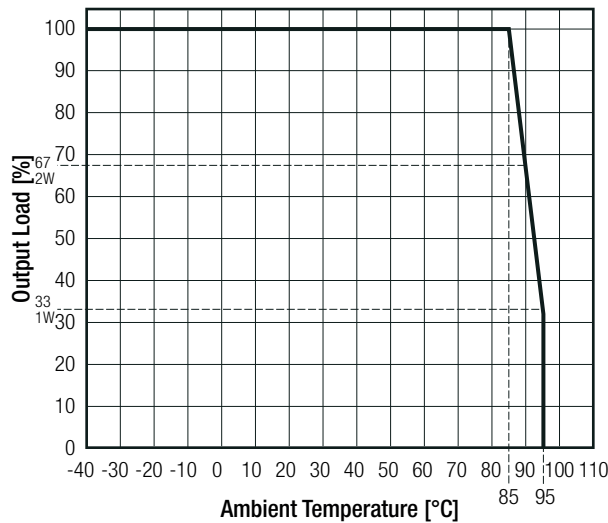
Note6: Refer to local safety regulations if input over-current protection is also required. Recommended fuse: slow blow type

**Specifications** (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

ENVIRONMENTAL			
Parameter	Condition		Value
Operating Temperature Range	full load@ free air convection (refer to "Derating Graph")		-40°C to +85°C
Operating Altitude			2000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.	+25°C	1636 x 10 <sup>3</sup> hours
		+85°C	303 x 10 <sup>3</sup> hours

**Derating Graph**

(@ Chamber and free air convection)

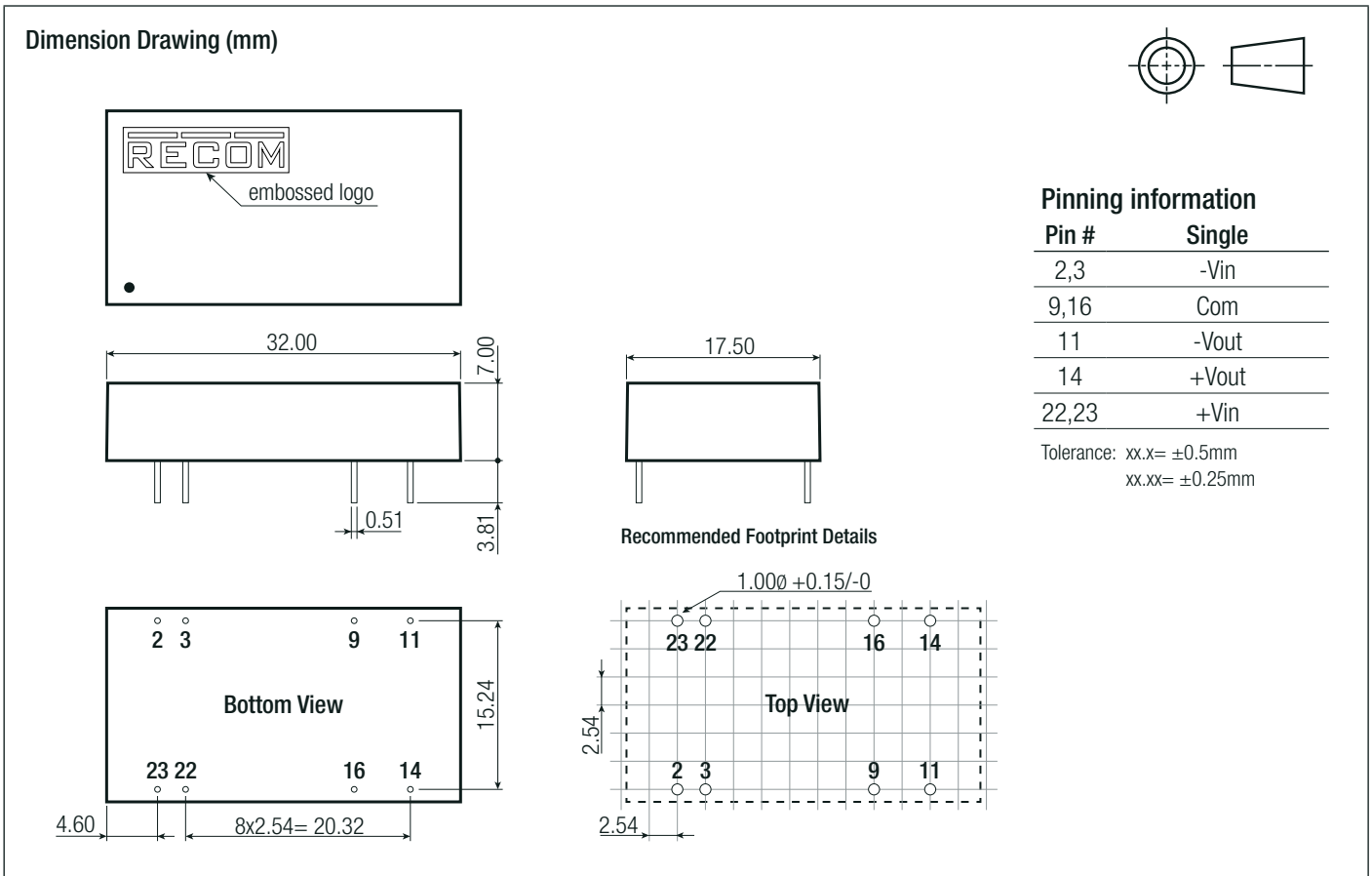


SAFETY AND CERTIFICATIONS		
Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment, General Requirements for Safety	SPCLVD1605077-10	IEC60950-1: 2005, 2nd Edition + A2: 2013 EN60950-1:2006 + A2:2013
Medical Electric Equipment, General Requirements for Safety and Essential Performance	WD-SE-R-180675-A0	IEC60601-1:2005 , 3rd Edition + A1:2012 EN60601-1:2006 + A12:2014
EAC	RU-AT.AB49.B.09571	TP TC 004/2011
RoHS 2+		RoHS 2011/65/EU + AM-2015/863

DIMENSION AND PHYSICAL CHARACTERISTICS		
Parameter	Type	Value
Material	case potting	non-conductive black plastic, (UL94V-0) epoxy, (UL94V-0)
Dimension (LxWxH)		32.00 x 17.50 x 7.00mm
Weight		7.7g typ.

continued on next page

**Specifications** (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)



**PACKAGING INFORMATION**

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	530.0 x 23.0 x 19.0mm
Packaging Quantity		15pcs
Storage Temperature Range		-55°C to +125°C
Storage Humidity	non-condensing	95% RH max.

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