

Features

Regulated Converters

Rev.1

- 2:1 Wide Range Voltage Input
- 1kVDC, 2kVDC and 3kVDC Isolation
- Approved for Medical Applications
- Continuous Short Circuit Protection
- Low Ripple and Noise
- DIP16, mini DIP16 and SMD Cases Styles
- Efficiency to 83 %

ECONOLINE

DC/DC-Converter

RW2 Series

2 Watt

DIP16, Mini DIP16 & SMD Single & Dual Output



**EN-60950-1 Certified
(All Suffixes)**

**EN-60601-1 Certified
(Suffixes /H2 and /H3)**

Description

High power-density, 2:1 input voltage range and a wide temperature range of -40°C to +85°C are just some of the characteristics of this versatile DIP16 converter, ideal for highly sophisticated industrial and medical designs where a regulated converter is required but space is at a premium. Three different case styles and isolation options are available.

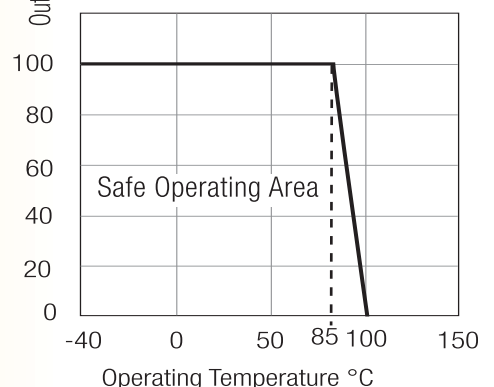
Selection Guide

Part Number	Input Voltage Range (VDC)	Rated Output Voltage (VDC)	Output Current Full Load (mA)	Efficiency typ./nom Vin (%)	Capacitive Load max. μ F
RW2-053.3S (H2/H3)	4.5 - 9	3.3	500	68	1000 μ F
RW2-0505S (H2/H3)	4.5 - 9	5	400	73	1000 μ F
RW2-0512S (H2/H3)	4.5 - 9	12	166	75	220 μ F
RW2-0515S (H2/H3)	4.5 - 9	15	134	75	100 μ F
RW2-123.3S (H2/H3)	9 - 18	3.3	500	69	1000 μ F
RW2-1205S (H2/H3)	9 - 18	5	400	75	1000 μ F
RW2-1212S (H2/H3)	9 - 18	12	166	80	220 μ F
RW2-1215S (H2/H3)	9 - 18	15	134	80	100 μ F
RW2-243.3S (H2/H3)	18 - 36	3.3	500	70	1000 μ F
RW2-2405S (H2/H3)	18 - 36	5	400	78	1000 μ F
RW2-2412S (H2/H3)	18 - 36	12	166	83	220 μ F
RW2-2415S (H2/H3)	18 - 36	15	134	83	100 μ F
RW2-483.3S (H2/H3)	36 - 72	3.3	500	73	1000 μ F
RW2-4805S (H2/H3)	36 - 72	5	400	76	1000 μ F
RW2-4812S (H2/H3)	36 - 72	12	166	81	220 μ F
RW2-4815S (H2/H3)	36 - 72	15	134	81	100 μ F
RW2-0505D (H2/H3)	4.5 - 9	\pm 5	\pm 200	73	\pm 470 μ F
RW2-0509D (H2/H3)	4.5 - 9	\pm 9	\pm 111	74	\pm 220 μ F
RW2-0512D (H2/H3)	4.5 - 9	\pm 12	\pm 83	75	\pm 100 μ F
RW2-0515D (H2/H3)	4.5 - 9	\pm 15	\pm 67	75	\pm 47 μ F
RW2-1205D (H2/H3)	9 - 18	\pm 5	\pm 200	75	\pm 470 μ F
RW2-1209D (H2/H3)	9 - 18	\pm 9	\pm 111	78	\pm 220 μ F
RW2-1212D (H2/H3)	9 - 18	\pm 12	\pm 83	80	\pm 100 μ F
RW2-1215D (H2/H3)	9 - 18	\pm 15	\pm 67	80	\pm 47 μ F
RW2-2405D (H2/H3)	18 - 36	\pm 5	\pm 200	78	\pm 470 μ F
RW2-2409D (H2/H3)	18 - 36	\pm 9	\pm 111	81	\pm 220 μ F
RW2-2412D (H2/H3)	18 - 36	\pm 12	\pm 83	83	\pm 100 μ F
RW2-2415D (H2/H3)	18 - 36	\pm 15	\pm 67	83	\pm 47 μ F
RW2-4805D (H2/H3)	36 - 72	\pm 5	\pm 200	78	\pm 470 μ F
RW2-4809D (H2/H3)	36 - 72	\pm 9	\pm 111	81	\pm 220 μ F
RW2-4812D (H2/H3)	36 - 72	\pm 12	\pm 83	83	\pm 100 μ F
RW2-4815D (H2/H3)	36 - 72	\pm 15	\pm 67	83	\pm 47 μ F

Standard Isolation is 1kVDC. Add suffix "/H2" for 2kVDC Isolation, "/H3" for 3kVDC Isolation.

Add no suffix for Standard case style. Add suffix "/SMD" for SMD package or "/B" for smaller case size e.g. RW2-0505D, RW2-0505S/H3, RW2-0505D/H2/SMD, RW2-0505S/B

Derating-Graph (Ambient Temperature)

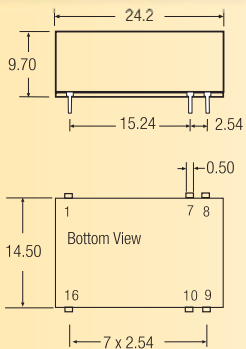


Electrical Specifications (measured at $T_A = 25^\circ\text{C}$, at nominal input voltage and rated output current unless otherwise specified)

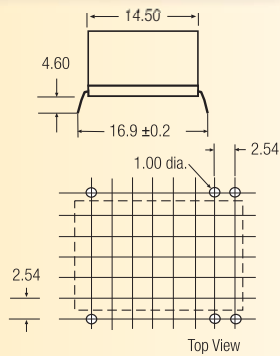
Input Voltage Range		2:1
Output Accuracy		$\pm 2\%$ typ.
Line Voltage Regulation		$\pm 0.5\%$ max.
Load Voltage Regulation	(20% to 100% full load)	$\pm 0.5\%$ typ.
Output Ripple and Noise (20MHz limited)		50mVp-p max.
Switching Frequency (at full Load)		100kHz min. / 700kHz max.
Efficiency at Full Load		70% min. / 80% typ.
Isolation Voltage	(tested for 1 second)	1000VDC min. H2 2000VDC min. H3 3000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Capacitance		30pF max.
Isolation Resistance		1G Ω min.
Short Circuit Protection		Continuous
Operating Temperature Range		-40°C to $+85^\circ\text{C}$ (see Graph)
Storage Temperature Range		-55°C to $+125^\circ\text{C}$
Case Temperature		100 $^\circ\text{C}$ max.
Relative Humidity		95% RH
Package Weight		6.4g
MTBF ($+25^\circ\text{C}$)	For Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F
($+85^\circ\text{C}$)		using MIL-HDBK 217F
		4366 x10 ³ hours
		658 x10 ³ hours

Package Style and Pinning (mm)

Standard Case Style (Standard, /H2 and /H3 Options)

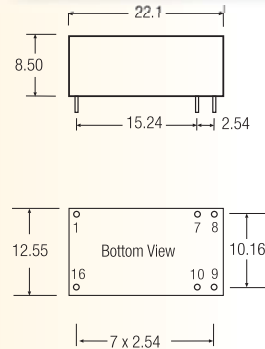


16 Pin DIP Package

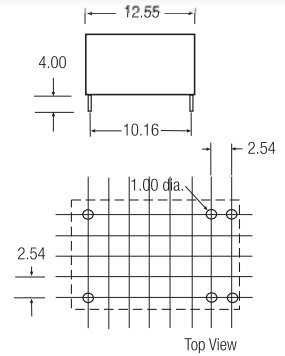


Recommended Footprint Details

Case Style B (Standard, /H2 and /H3 Options)

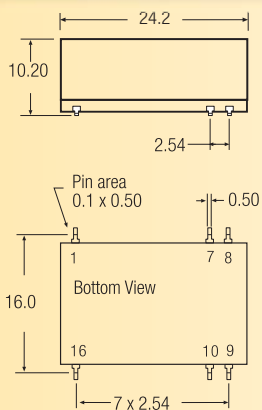


16 Pin Mini-DIP Package

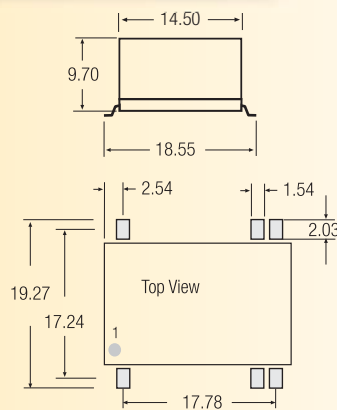


Recommended Footprint Details

Case Style SMD (Standard, /H2 and /H3 Options)



16 Pin SMD Package



Recommended Pad Details



Pin Connections (All Case Styles)

Pin #	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Com
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

XX.X ± 0.5 mm
XX.XX ± 0.35 mm