Features

Regulated Converters

- On/Off Pin
- 1kVDC Isolation
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Internal linear regulator
- Efficiency to 70 %

Description

The RY series DC/DC converter is a low cost general purpose isolated converter with a built-in linear regulator to give a regulated, load-independent output. It is available with single or dual outputs. A useful feature is the CTRL pin on the single output version which allows to controll the converter with an external enable signal.

Selection Guide

Part Number SIP 7	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load[1]
RY-xx05S	5, 9, 12, 15, 24	5	200	58-60	1200µF
RY-xx09S	5, 9, 12, 15, 24	9	111	56-62	1200µF
RY-xx12S	5, 9, 12, 15, 24	12	84	60-66	680µF
RY-xx15S	5, 9, 12, 15, 24	15	66	60-66	680µF
RY-xx24S	5, 9, 12, 15, 24	24	42	60-68	220µF
RY-xx05D	5, 9, 12, 15, 24	±5	±100	50-58	±470µF
RY-xx09D	5, 9, 12, 15, 24	±9	±55	52-60	±470µF
RY-xx12D	5, 9, 12, 15, 24	±12	±42	58-68	±330µF
RY-xx15D	5, 9, 12, 15, 24	±15	±33	62-68	±330µF
RY-xx24D	5, 9, 12, 15, 24	±24	±21	64-70	±100µF

xx = Input Voltage. Other input and output voltage combinations available on request.

* add Suffix "P" for Continuous Short Circuit Protection, e.g. RY-0505S/P, RY-0505D/P

Specifications (measured at T_A = 25°C, nominal input voltage, full load and after warm-up)

Input Voltage Range		±5%
Output Voltage Accuracy		±5%
Line Voltage Regulation		±1% max.
Load Voltage Regulation (10% to 100% full load)		±1% max.
Minimum Load		10% [2]
Output Ripple and Noise (20MHz limited)		100mVp-p max.
Operating Frequency		30kHz min. / 50kHz typ. / 88kHz max.
Efficiency at Full Load		54% min. / 60% typ.
Isolation Voltage	(tested for 1 second)	1000VDC
	(rated for 1 minute**)	500VAC / 60Hz
Isolation Capacitance	Single output types	30pF min. / 150pF max.
	Dual output types	40pF min. / 72pF max.
Isolation Resistance		10 GΩ min.
Short Circuit Protection		1 Second
P-Suffix		Continuous
Operating Temperature Range (free air convection)		-40°C to +70°C (see Graph)
Storage Temperature Range		-55°C to +125°C
Relative Humidity		95% RH
Package Weight	RY Single & Dual output types	2.8g
Packing Quantity		25 pcs per Tube
MTBF (+25°C) *Detailed Information see Application Notes chapter "MTBF"*	using MIL-HDBK 217F	924 x 10^3 hours
(+70°C)	using MIL-HDBK 217F	135 x 10^3 hours
Certifications		
EN General Safety	Report: SPCLVD1109103	EN60950-1:2006 + A12:2011

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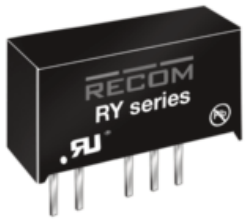
ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

1 Watt SIP7 Single & Dual Output



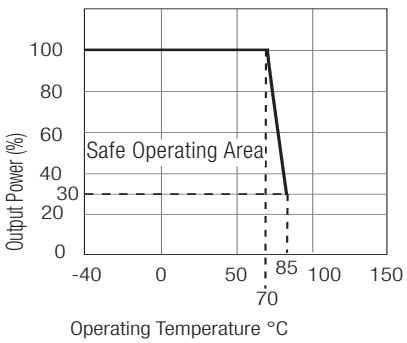
RoHS 2011/65/EU 6/6

EN-60950-1 Certified

RY

Derating-Graph

(Ambient Temperature)



**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.

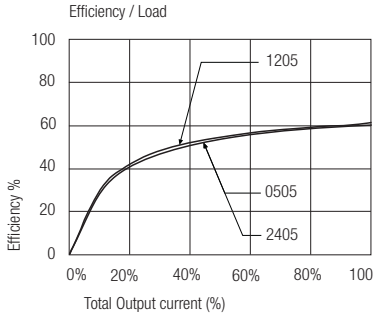
Specifications (measured at T_A = 25°C, nominal input voltage, full load and after warm-up)

Notes

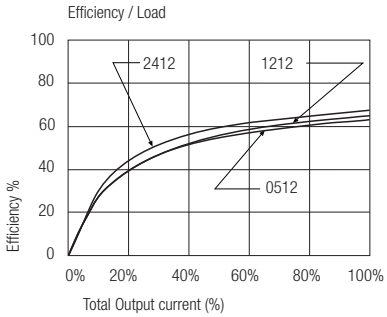
Note 1:	Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter
Note 2:	The RY series requires a minimum of 10% load on the output to maintain specified regulation. Operating under no-load conditions will not damage these devices;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

Typical Characteristics

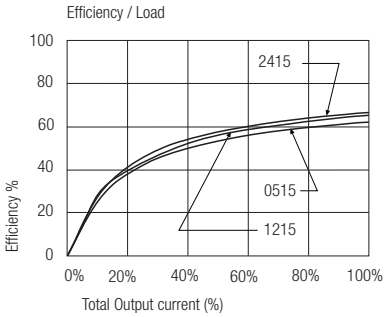
RY-xx05S



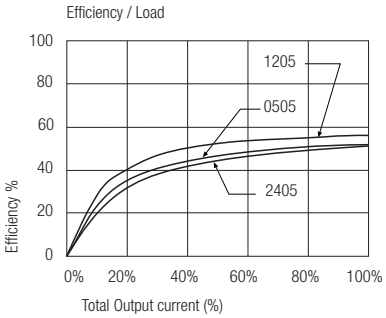
RY-xx12S



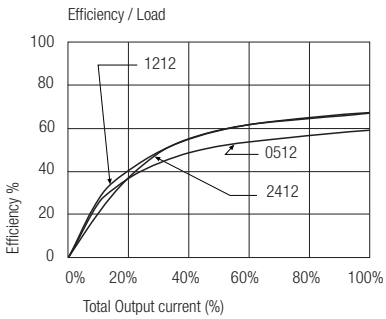
RY-xx15S



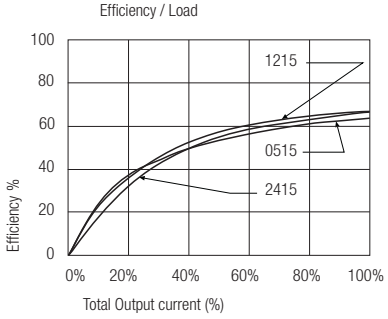
RY-xx05D



RY-xx12D

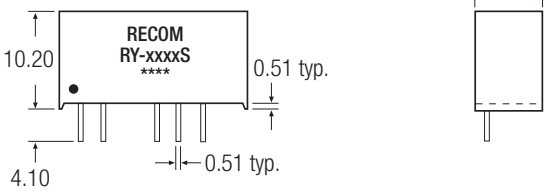


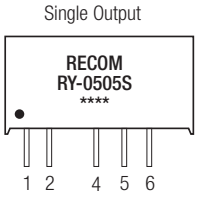
RY-xx15D

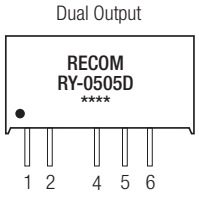


Package Style and Pinning (mm)

SIP7 Package





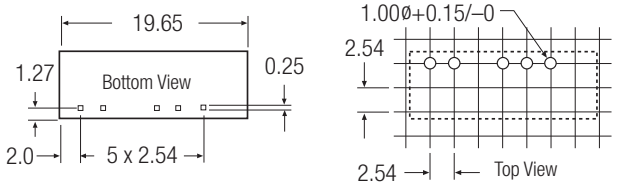


Pin Connections

Pin #	Single	Dual
1	+Vin	+Vin
2	–Vin	–Vin
4	–Vout	–Vout
5	CTRL	Com
6	+Vout	+Vout

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Recommended Footprint Details



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