Features

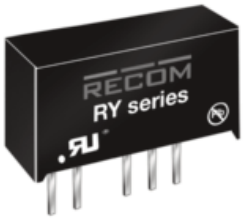
Regulated Converters

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

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

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) } *Detailed Information see Application Notes chapter "MTBF"*	using MIL-HDBK 217F	135 x 10^3 hours
Certifications		
EN General Safety	Report: SPCLVD1109103	EN60950-1:2006 + A12:2011

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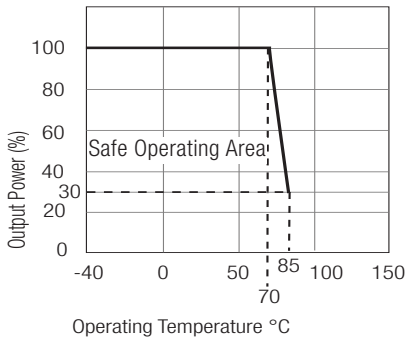
Derating-Graph
(Ambient Temperature)



**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.

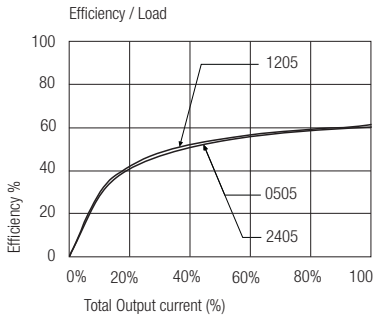
Specifications (measured at T_A = 25°C, nominal input voltage, full load and after warm-up)

Notes

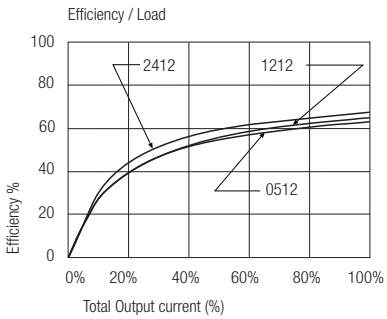
Note 1:	Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter
Note 2:	The RY series requires a minimum of 10% load on the output to maintain specified regulation. Operating under no-load conditions will not damage these devices;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

Typical Characteristics

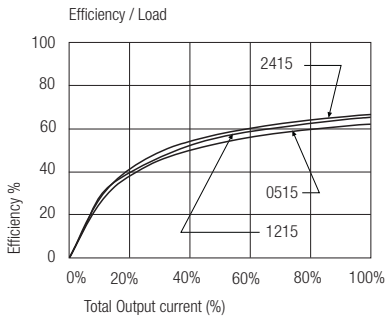
RY-xx05S



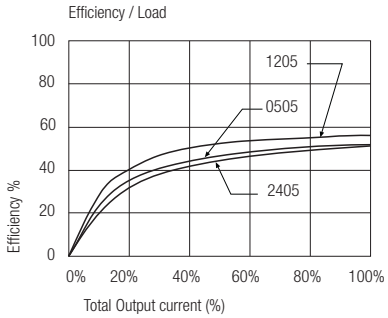
RY-xx12S



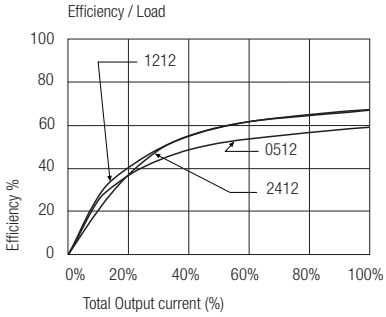
RY-xx15S



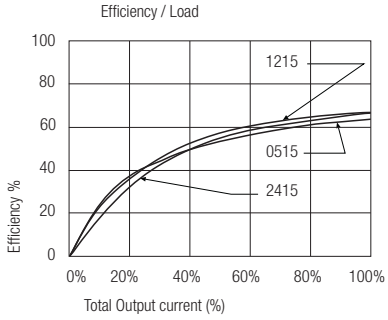
RY-xx05D



RY-xx12D

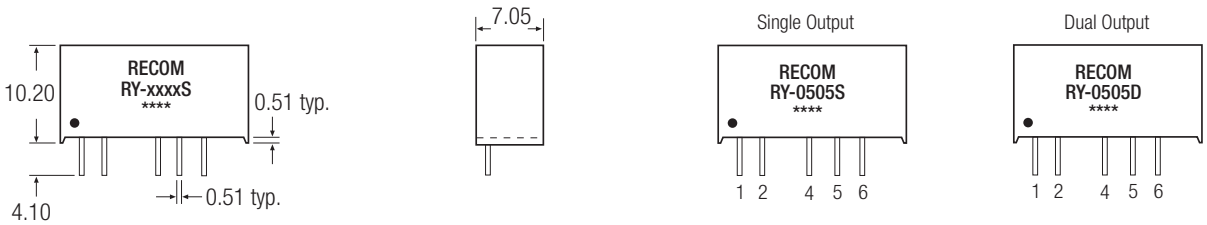


RY-xx15D



Package Style and Pinning (mm)

SIP7 Package

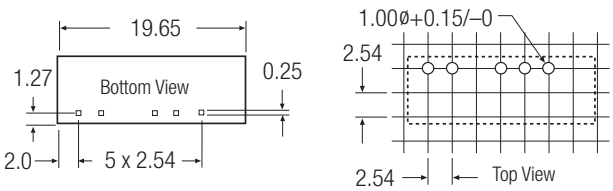


Pin Connections

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



RY

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

Как с нами связаться

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