

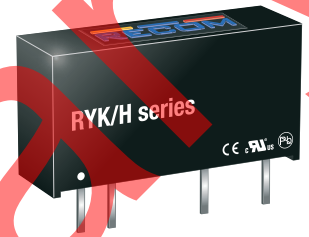
Features

- Low cost
- 1:1 Input voltage range
- Efficiency up to 81%
- 4kVDC/1 second isolation
- IEC/EN/UL 62368-1 certified
- Post regulated

Regulated Converters

RWK

**1 Watt
SIP7
Single Output**



Description

The RWK DC/DC converters are typically used in cost sensitive general purpose power isolation and voltage matching applications. Despite their low cost, they are fully specified converters with a built-in linear regulator to give a regulated, load-independent output. The converters are equipped with 4kVdc isolation, industrial operating temperature range of -40°C to +105°C without derating, and UL/EN certifications.

Selection Guide

Part Number	nom. Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. ⁽¹⁾ [%]	max. Capacitive Load ⁽²⁾ [µF]
RYK-0505S/H	5	5	200	81	3000
RYK-053.3S/H	5	3.3	303	75	3000

Notes:

Note1: Efficiency is tested at nominal input and full load at +25°C ambient

Note2: Max Cap Load is tested at nominal input and full resistive load

Model Numbering



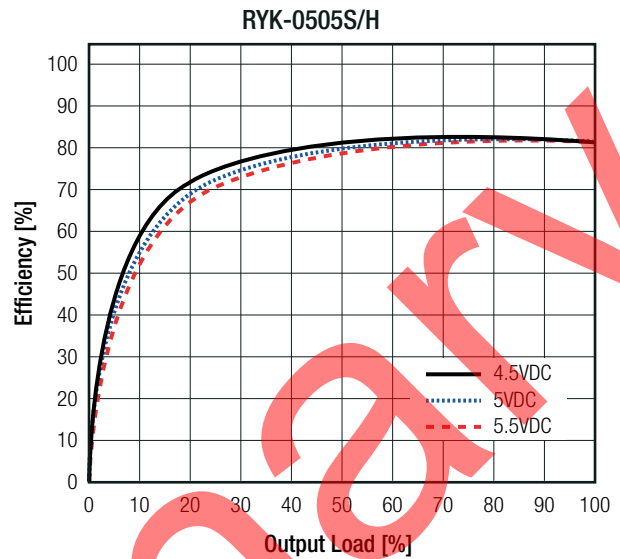
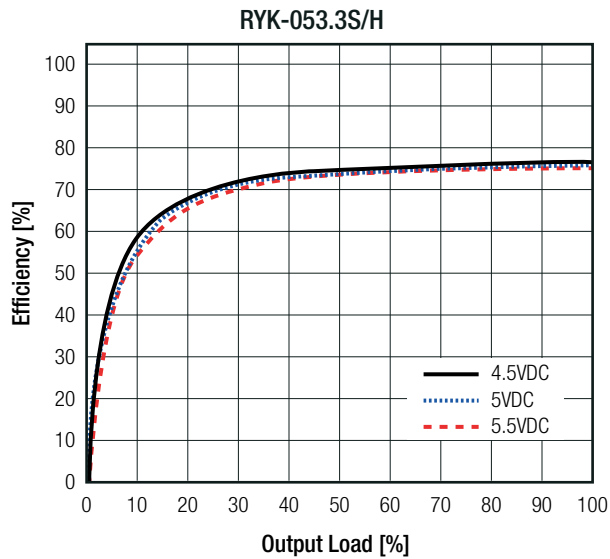
UL62368-1 certified
CAN/CSA-C22.2 No. 62368-1 certified
IEC/EN62368-1 certified
EN55032 compliant

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

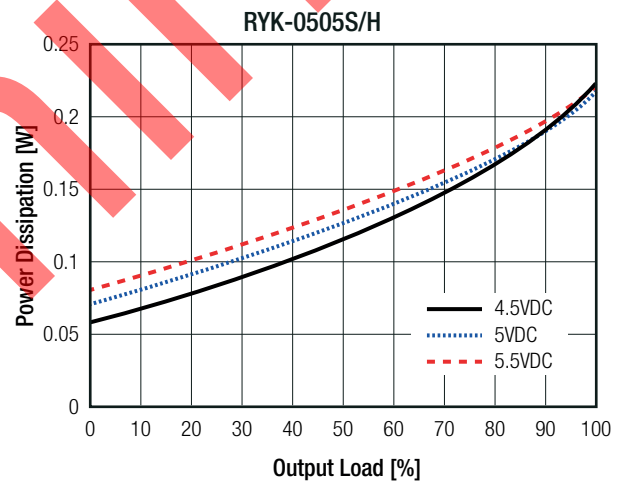
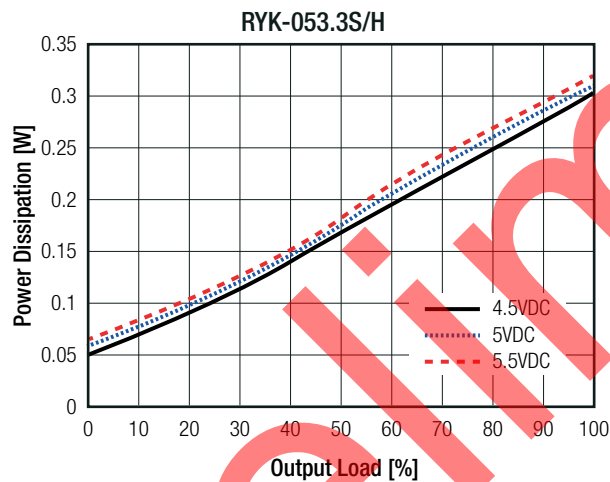
BASIC CHARACTERISTICS					
Parameter	Condition	Min.	Typ.	Max.	
Internal Input Filter					internal capacitors
Input Voltage Range			±10%		
Absolute Maximum Input Voltage ⁽³⁾					6VDC
Input Current	5Vout 3.3Vout				250mA 230mA
Start-up Time					50ms
Minimum Load		0%			
Internal Operating Frequency	100% load				1MHz
Output Ripple and Noise ⁽⁴⁾	20MHz BW		60mVp-p		
Notes:					
Note3: An 4.7µF/10V MLCC at input terminal is recommended if transient input voltage above 6VDC.					
Note4: Measurements are made with a 0.1µF MLCC across output. (low ESR)					
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Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

Efficiency vs. Load



Power Dissipation vs. Load

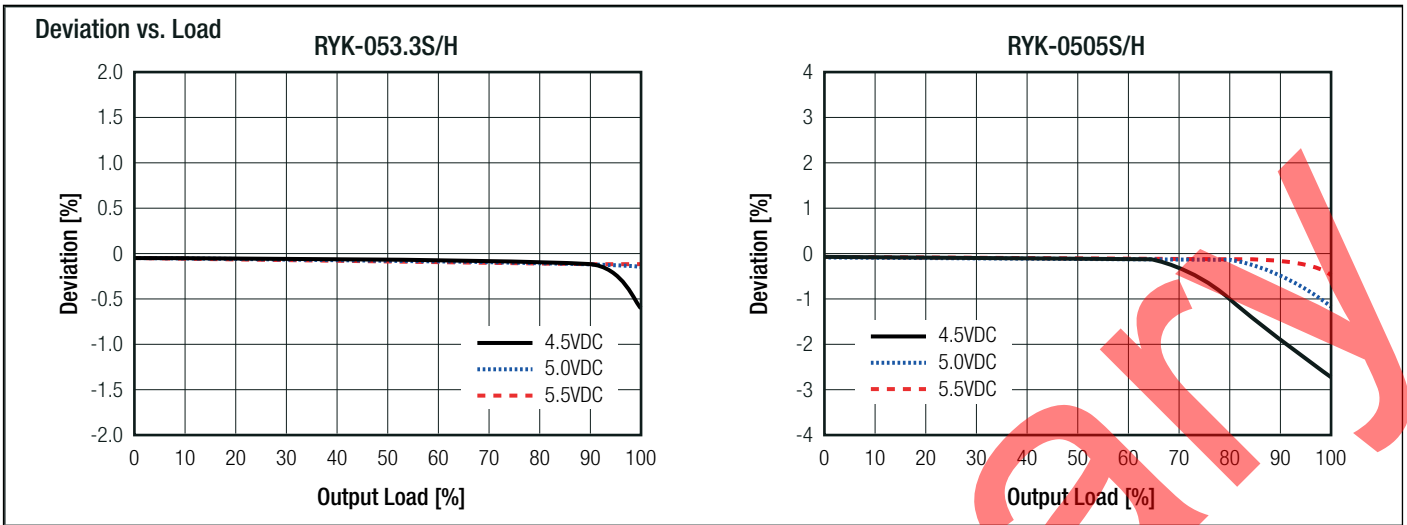


REGULATIONS

Parameter	Condition		Output Current	Value
Output Accuracy	5Vout		0-150mA >150mA	±1.0% max. refer to „Deviation vs. Load“
	3.3Vout		0-250mA >250mA	±1.0% max. refer to „Deviation vs. Load“
Line Regulation	low line to high line	5Vout	0-150mA >150mA	±1.0% max. refer to „Deviation vs. Load“
		3.3Vout	0-250mA >250mA	±0.5% max. refer to „Deviation vs. Load“
Load Regulation	0% to 75% load 75% to 100% load	5Vout		±1.0% max. refer to „Deviation vs. Load“
	0% to 80% load 80% to 100% load	3.3Vout		±1.0% max. refer to „Deviation vs. Load“

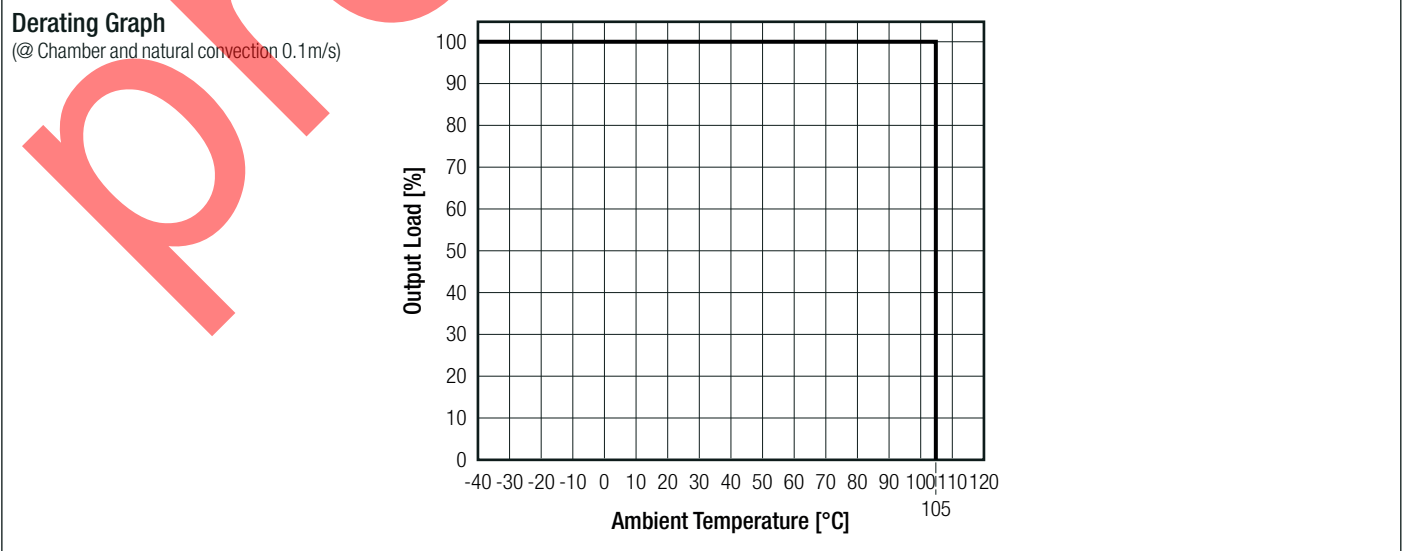
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Specifications (measured @ $T_a = 25^\circ\text{C}$, nom. V_{in} , full load and after warm-up unless otherwise stated)



PROTECTIONS			
Parameter	Type	Value	
Short Circuit Protection (SCP)	short circuit impedance	$<0.1\Omega$	
Isolation Voltage ⁽⁵⁾	I/P to O/P	1 second	4kVDC
		1 minute	3kVDC
Isolation Resistance	I/P to O/P, $V_{iso} = 500\text{VDC}$	1G Ω min.	
Isolation Capacitance	I/P to O/P, 100kHz/0.1V	10pF typ.	
Notes:			
Note5: For repeat Hi-Pot testing, reduce the time and/or the test voltage			

ENVIRONMENTAL		
Parameter	Condition	Value
Operating Temperature Range	@ natural convection 0.1m/s full load	-40°C to $+105^\circ\text{C}$
Maximum Case Temperature		120 $^\circ\text{C}$
Operating Altitude		2000m
Operating Humidity	non-condensing	95% RH max.
Pollution Degree		PD2
MTBF	according to MIL-HDBK-217F, G.B. $+85^\circ\text{C}$	2500×10^3 hours

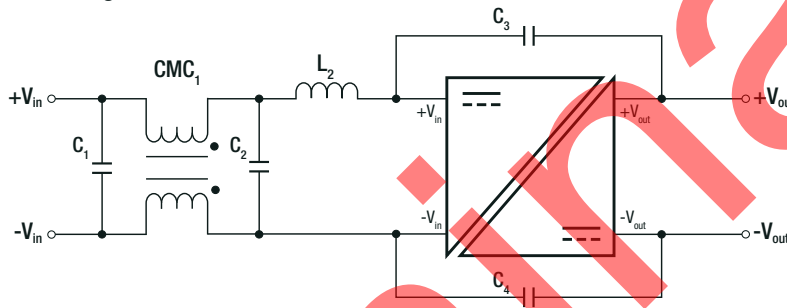


Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	File Number	Standard
Audio/video, information and communication technology equipment. Safety requirements	E518942-A6001-UL	UL62368-1:2014 CAN/CSA-C22.2 No. 62368-1:2014
Audio/Video, information and communication technology equipment - Part1: Safety requirements (CB Scheme)	E518942-A6001-CB-1	IEC62368-1:2014 2nd Edition
Audio/Video, information and communication technology equipment - Part1: Safety requirements (LVD)		EN62368-1:2014 + A11:2017
RoHS2+		RoHS-2011/65/EU + AM-2015/863
EMC Compliance	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment – Emission Requirements	with external filter refer to "EMC Filtering"	EN55032

EMC Filtering Suggestions according to EN55032



Component List Class A

C2	L2	C3,C4
10µF	RLS-226 , 22µH	470pF

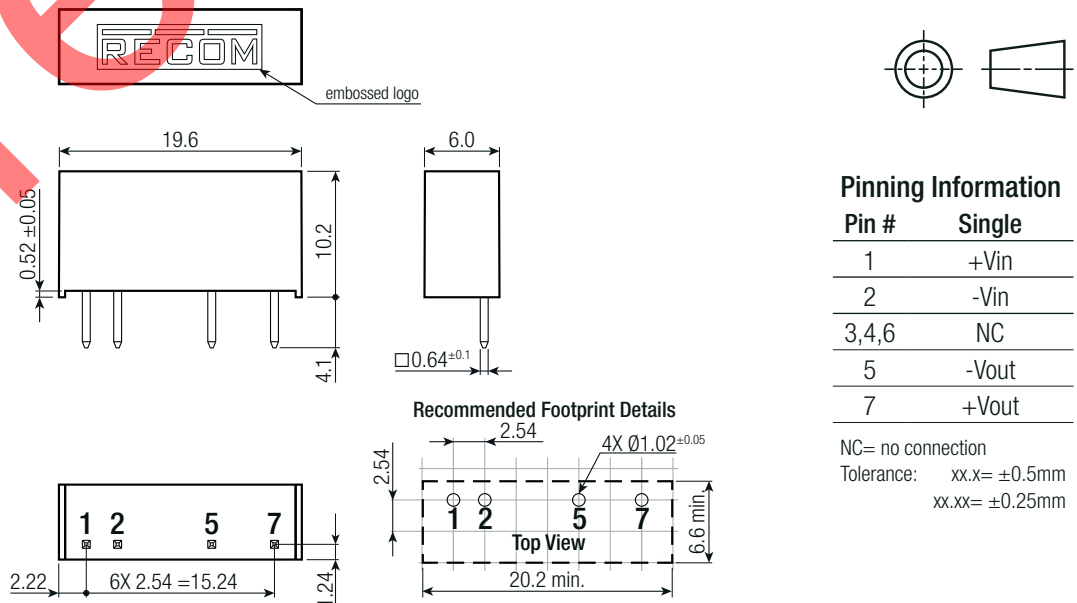
Component List Class B

C1,C2	CMC1	L2	C3,C4
10µF	9µH	RLS-226 , 22µH	470pF

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case	black plastic, (UL94V-0)
	PCB	FR4, (UL94V-0)
Dimension (LxWxH)		19.6 x 6.0 x 14.3mm
Weight		1.7g typ.

Dimension Drawing (mm)



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	520.0 x 9.20 x 19.00mm
Packaging Quantity		25pcs
Storage Temperature Range	non-condensing	-50°C to +125°C
Storage Humidity		95% RH max.

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