



**THE DATASHEET OF  
RKE-0505S/H**



# Features

# Unregulated Converters

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



## RKE/H

**1 Watt**  
**SIP7**  
**Single Output**



### Description

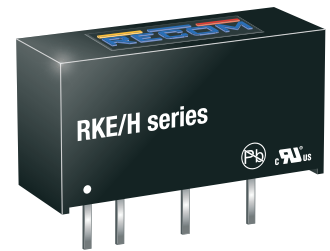
The RKE/H DC/DC converters are typically used in cost sensitive general purpose power isolation and voltage matching applications. Despite their low cost, they are fully specified converters with 4kVdc isolation, industrial operating temperature range of -40°C to +85°C without derating and UL/EN certifications.

### Selection Guide

Part Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. <sup>(1)</sup> [%]	max. Capacitive Load <sup>(2)</sup> [µF]
RKE-0505S/H	5	5	200	75	1000
RKE-1205S/H	12	5	200	80	1000
RKE-2405S/H	24	5	200	81	1000

#### Notes:

- Note1: Values at nominal input voltage and full load  
Note2: Test by minimum Vin and constant resistor load



### Model Numbering



#### Ordering Examples:

- RKE-0505S/H, 5Vin and 5Vout, Single Output  
RKE-2405S/H, 24Vin and 5Vout, Single Output

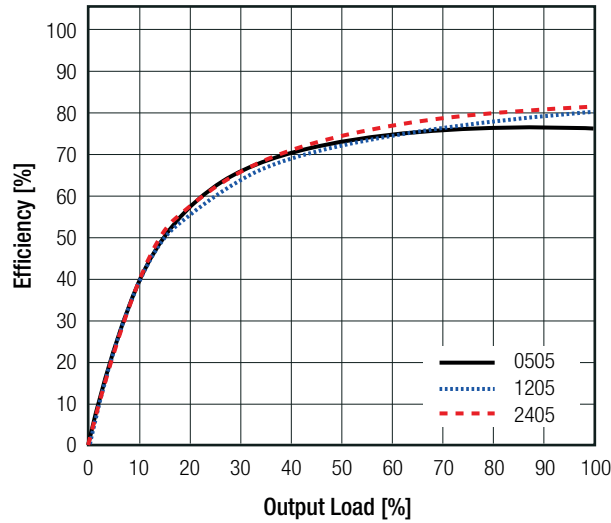
UL60950-1 certified  
CSA/CAN 22.2 No. 60950-1 certified  
IEC/EN60950-1 certified  
EN55032 compliant

### Specifications (measured at Ta= 25°C, nominal input voltage, full load, otherwise noted)

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Filter	internal capacitors			
Input Voltage Range		-10%		+10%
Operating Frequency		50kHz	80kHz	105kHz
Minimum Load		0%		
Output Ripple and Noise	measured with 20MHz bandwidth and a 0.1µF ceramic capacitor		40mVp-p	100mVp-p
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Specifications (measured at Ta= 25°C, nominal input voltage, full load, otherwise noted)

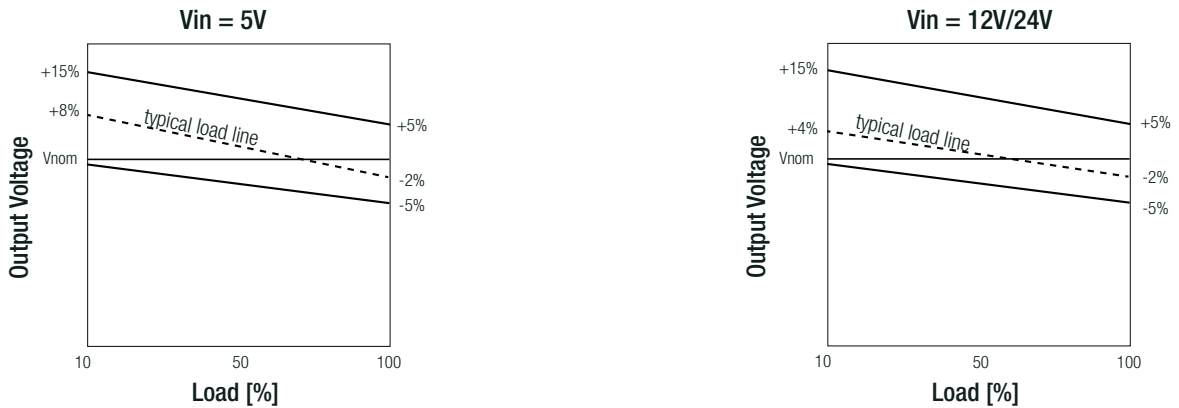
Efficiency vs. Load



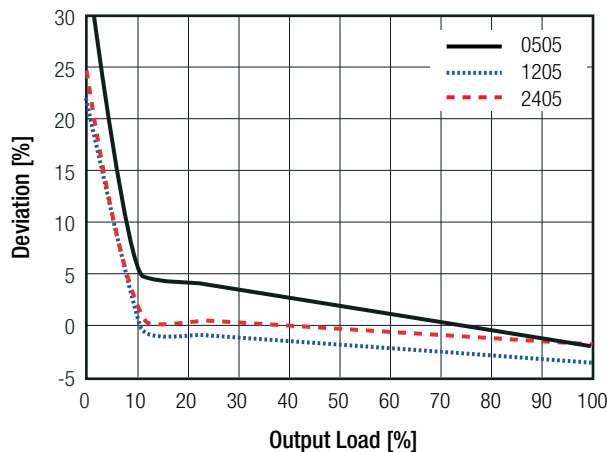
**REGULATIONS**

Parameter	Condition	Values
Output Voltage Accuracy		±5% typ.
Line Voltage Regulation	low line to high line	±1.2% typ. /1% of Vin
Load Voltage Regulation	10% to 100% load Vin = 5V	8% typ., 15% max
	Vin = 12V	3% typ., 15% max
	Vin = 24V	4% typ., 15% max

Tolerance Envelope



Accuracy vs. Load



**Specifications** (measured at Ta= 25°C, nominal input voltage, full load, otherwise noted)

**PROTECTIONS**

Parameter	Condition		Value
Isolation Voltage <sup>(3)</sup>	I/P to O/P	tested for 1 second	4kVDC
		tested for 1 minute	3kVDC
Isolation Capacitance			75pF max.
Isolation Resistance			1GΩ min.

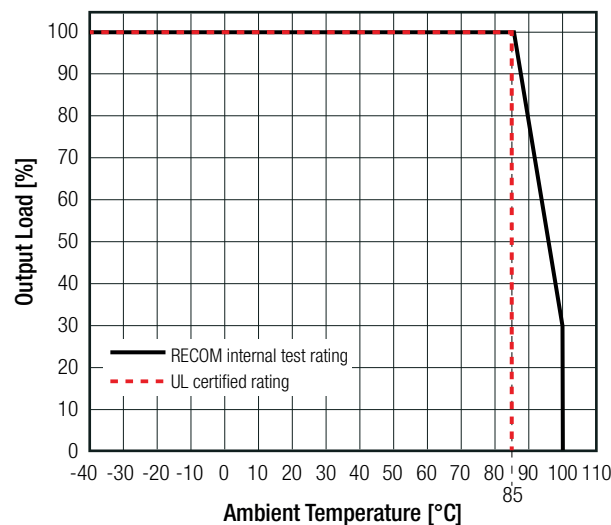
**Notes:**

Note3: For repeat Hi-Pot testing, reduce the time and/or the test voltage

**ENVIRONMENTAL**

Parameter	Condition		Value
Operating Temperature Range	with derating		-40°C to +85°C
Maximum Case Temperature			+105°C
Operating Humidity	non-condensing		5% to 95% RH
Vibration			MIL-STD-202G
MTBF	according to MIL-HDBK-217F, G.B.	+25°C	13200 x 10 <sup>3</sup> hrs
		+85°C	5200 x 10 <sup>3</sup> hrs

**Derating Graph**



**SAFETY AND CERTIFICATIONS**

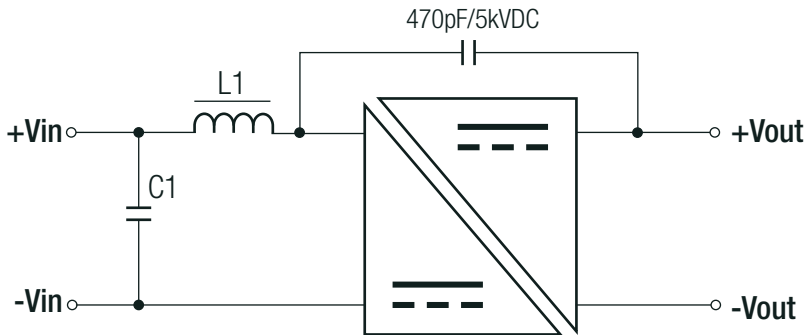
Certificate Type	Report / File Number	Standard
IEC/EN General Safety	LVD1602031	IEC/EN60950-1, 2nd Edition, 2013
UL General Safety	E358085-A4	UL60950-1, 2nd Edition, 2007
CAN/CSA General Safety		CSA C22.2 No. 60950-1, 2nd Edition, 2007
EAC	RU-AT.49.09571	TP TC 004/2011
RoHs 2		2011/65/EU

EMC Compliance	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment - Emission requirements	with external filter	EN55032, Class B

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Specifications (measured at Ta= 25°C, nominal input voltage, full load, otherwise noted)

### EMC Filtering Suggestion according to EN55032 Class B

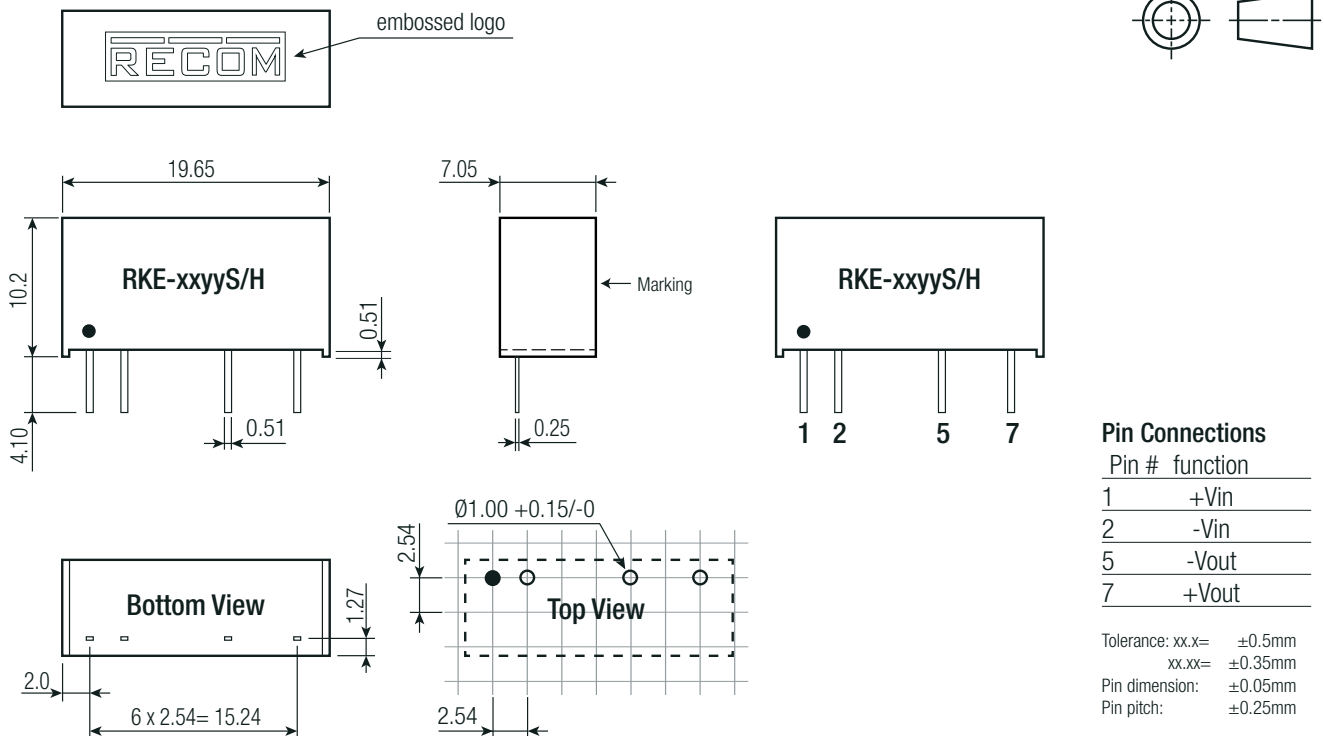


MODEL	C1	L1
RKE-0505S/H	10 $\mu$ F	4.7 $\mu$ H choke
RKE-1205S/H	4.7 $\mu$ F	22 $\mu$ H choke
RKE-2405S/H	2.2 $\mu$ F	47 $\mu$ H choke

### DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting	black plastic (UL94 V-0) epoxy (UL94 V-0)
Package Dimension (LxWxH)		19.65 x 7.05 x 10.2mm
Package Weight		2.7g typ.

#### Dimension Drawing (mm)



#### Pin Connections

Pin #	function
1	+Vin
2	-Vin
5	-Vout
7	+Vout

Tolerance: xx.x=  $\pm 0.5$ mm  
 xx.xx=  $\pm 0.35$ mm  
 Pin dimension:  $\pm 0.05$ mm  
 Pin pitch:  $\pm 0.25$ mm



### PACKAGING INFORMATION

Packaging Dimension (LxWxH)	Tube	520 x 9.3 x 16.5mm
Packaging Quantity		25pcs
Storage Temperature Range		-55°C to +125°C

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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-  [Recom Power Information](#)

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