

Features

Unregulated Converters

- Low Cost
- 1:1 Input Voltage Range
- Efficiency up to 81%
- 4kVDC/1 second Isolation
- IEC/EN/UL Certified

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

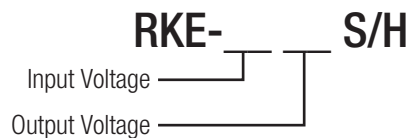
Part Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. ⁽¹⁾ [%]	max. Capacitive Load ⁽²⁾ [μF]
RKE-0505S/H	5	5	200	75	1000
RKE-1205S/H	12	5	200	80	1000
RKE-2405S/H	24	5	200	81	1000

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

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

BASIC CHARACTERISTICS

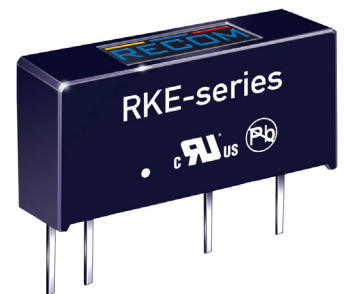
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		-10%		+10%
Input Filter	internal capacitors			
Operating Frequency			80kHz	
Minimum Load		0%		
Output Ripple and Noise	measured with 20MHz bandwidth and a 0.1μF ceramic capacitor		40mVp-p	100mVp-p

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RECOM
DC/DC Converter

RKE/H

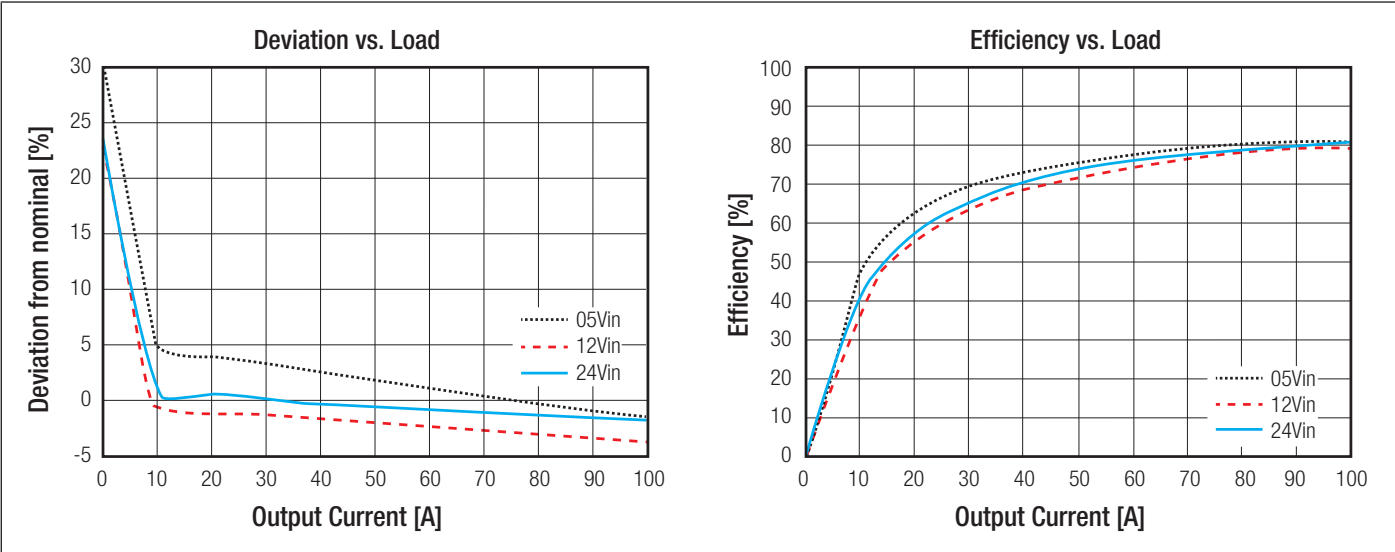
1 Watt
SIP7
Package



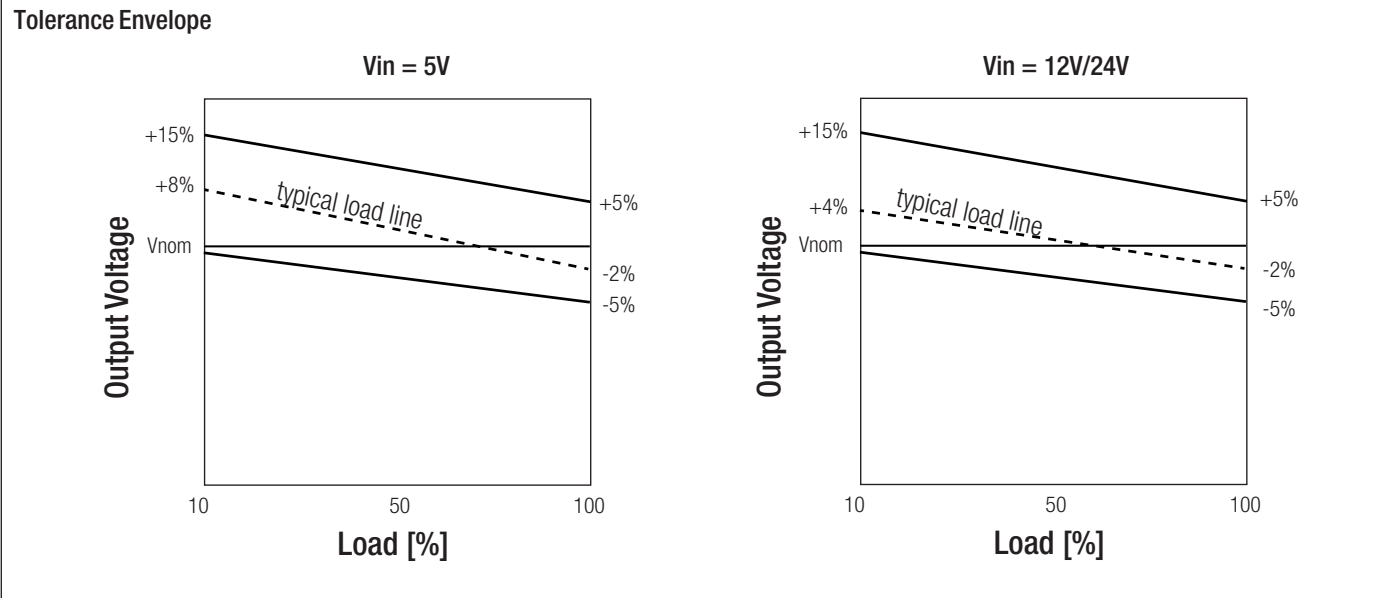
UL US
E358085

UL60950-1 Certified
EN55022 Compliant

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



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



PROTECTIONS		
Parameter	Condition	Value
Isolation Voltage	I/P to O/P	4kVDC / 1sec.
Isolation Capacitance		45pF max.
Isolation Resistance		1GΩ min.

Specifications (measured at $t_a = 25^\circ\text{C}$, nominal input voltage, full load, otherwise noted)

ENVIRONMENTAL		
Parameter	Condition	Value
Operating Temperature Range		-40°C to $+85^\circ\text{C}$
Maximum Case Temperature		$+105^\circ\text{C}$
Operating Humidity	non-condensing	5% to 95% RH
Vibration		MIL-STD-202G
MTBF	MIL-HDBK-217F $+25^\circ\text{C}$ $+85^\circ\text{C}$	$13200 \times 10^3\text{hrs}$ $5200 \times 10^3\text{hrs}$

Derating Graph	
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The graph plots Output Power [%] on the y-axis (0 to 100) against Ambient Temperature [°C] on the x-axis (-40 to 120). A solid line represents the derating curve: it is at 100% power from -40°C to 85°C, then decreases linearly to 30% power at 100°C, and remains at 30% power up to 120°C. A dashed line at 30% power from -40°C to 100°C, and a vertical dashed line at 85°C, define the 'Safe Operating Area'.

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. 60601-1, 2nd Edition, 2007

EMC Compliance	Condition	Standard / Criterion
EMI conducted and radiated emission	with external filter	EN55022, Class B

EMC Class B Filter suggestion		
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The diagram shows a filter circuit. Input +Vin and -Vin are connected to a capacitor C1. The signal path goes through an inductor L1. After L1, there is a parallel combination of a capacitor and an inductor connected to ground. The output +Vout and -Vout are taken from the other side of the filter.

MODEL	C1	L1
RKE-0505S/H	10 μF	4.7 μH
RKE-1205S/H	4.7 μF	22 μH
RKE-2405S/H	2.2 μF	47 μH

Specifications (measured at $t_a = 25^\circ\text{C}$, nominal input voltage, full load, otherwise noted)

DIMENSION and PHYSICAL CHARACTERISTICS		
Parameter	Type	Value
Material	Case Potting	black plastic (UL94V-0) Epoxy (UL94V-0)
Package Dimension (LxWxH)		19.65 x 7.05 x 10.2mm
Package Weight		2.7g typ.

Dimension Drawing (mm)

The dimension drawing includes the following views and dimensions:

- Top View:** Shows the package footprint with dimensions 19.65 mm (length) and 7.05 mm (width). The RECOM logo is embossed. The marking "RKE-xyyS/H" is shown. Pin 1 is located 4.10 mm from the left edge and 0.51 mm from the bottom edge. The pin pitch is 2.54 mm.
- Side View:** Shows the package height of 10.2 mm and the pin height of 0.51 mm. The marking "RKE-xyyS/H" is shown.
- Bottom View:** Shows the package footprint with dimensions 15.24 mm (length) and 1.27 mm (width). The pin pitch is 2.0 mm.
- Pin Connections:**

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

Pin Connections

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

Tolerance: xx.x= ±0.5mm
xx.xx= ±0.35mm
Pin dimension: ±0.05mm
Pin pitch: ±0.25mm

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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- 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.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- 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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