

Features

Regulated Converters

- 4kVDC/1sec basic grade isolation
- Industry standard 5W 1"x1" package
- Feedback regulated output
- Derates to 110°C ambient temperature
- Wide 4:1 input
- ON/OFF control pin, UVLO, SCP
- 0% minimum load



REC5K-AW

5 Watt
1" x 1"
Single Output



UL62368-1 certified
C22.2 No. 62368-1-1 certified
IEC/EN62368-1 certified
CB Report

Description

This series offers basic isolation of 4kVDC/1sec making it ideal for both industrial, medical, and other sophisticated high end applications. The compact 1"x1" non-conductive plastic package ensures high power density without compromising performance, operating with derating up to 110°C. Short circuit protection, undervoltage lockout, and remote on/off control is standard, and the converter is certified according to UL/IEC/EN62368-1.

Selection Guide

Part Number	Input Voltage Range [VDC]	nom. Output Voltage [VDC]	Output Current [mA]	Efficiency typ. ⁽¹⁾ [%]	max. Capacitive Load ⁽²⁾ [µF]
REC5K-2405SAW/H4	9 - 36	5	1000	77	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

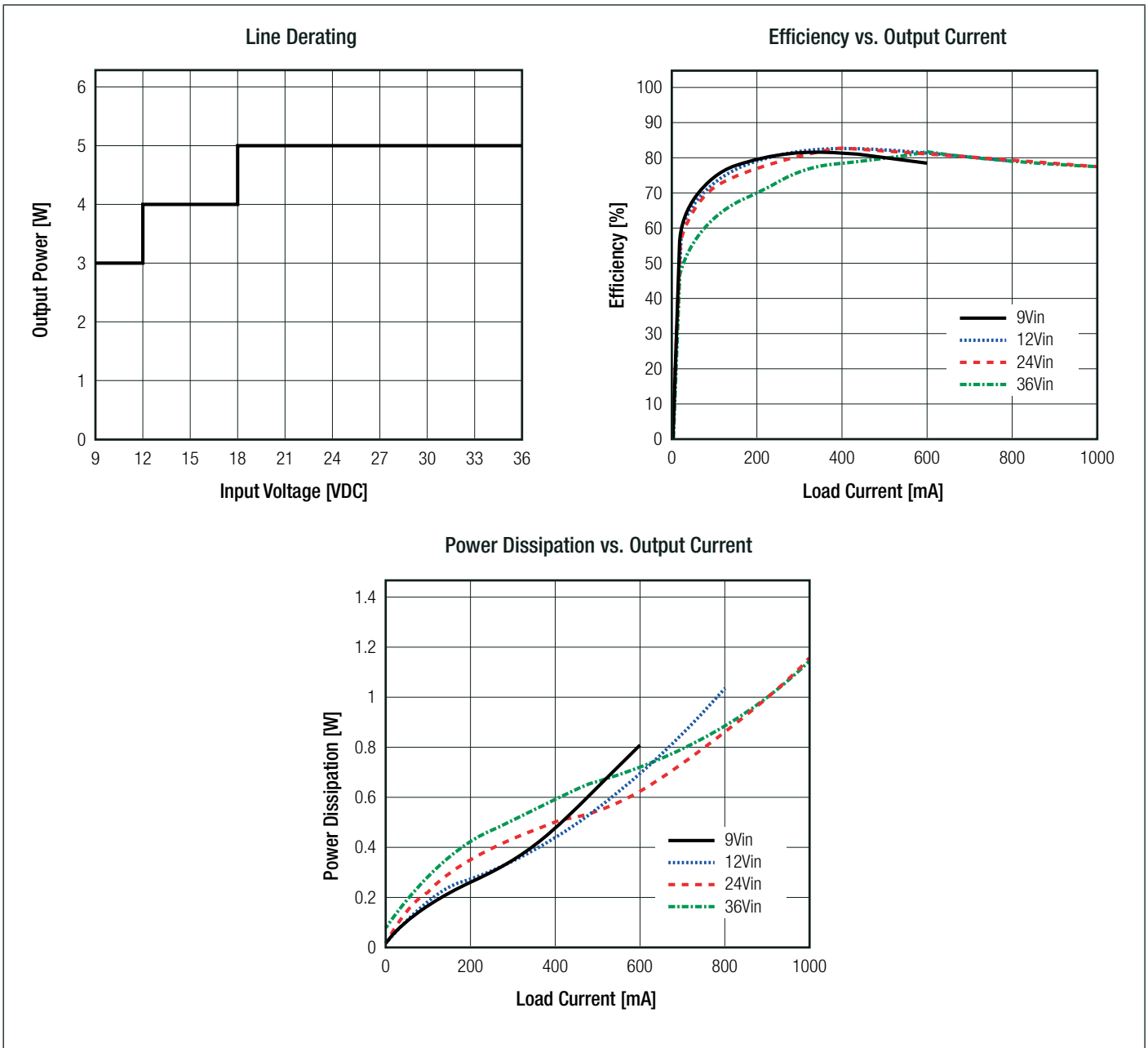
Model Numbering



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

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	nom. V_{IN} = 24VDC	9VDC		36VDC
Under Voltage Lockout (UVLO)	DC-DC ON	8.2VDC		8.8VDC
	DC-DC OFF	5.4VDC		6.0VDC
Input Current		240mA		270mA
Quiescent Current				20mA
Minimum Load		0%		
Startup time				50ms
ON/OFF CTRL	DC-DC ON	Open or $V_{CTRL} > 1.5VDC$		
	DC-DC OFF	Short to $-V_{IN}$ or $< 1.5VDC$		
Input Current on CTRL Pin	DC-DC ON			1mA
Standby Current			3mA	6mA
Internal Operating Frequency				400kHz
Output Ripple and Noise ⁽³⁾	20MHz BW			240mVp-p
Notes: Note3: 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)

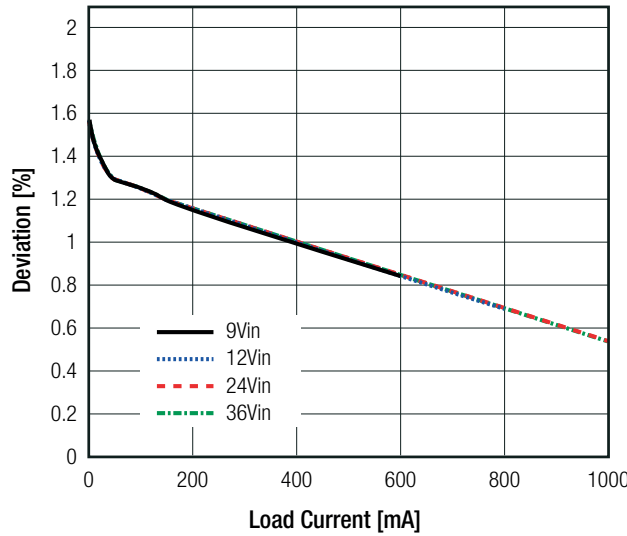


REGULATIONS		
Parameter	Condition	Value
Output Accuracy		±2.5% typ.
Line Regulation	low line to high line, full load	±2.0% max.
Load Regulation ⁽⁴⁾	10% to 100% load	2.0% max.
Notes: Note4: Operation below 10% load will not harm the converter, but specifications may not be met		

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

Deviation vs. Output Current



PROTECTIONS

Parameter	Type	Value
Short Circuit Protection (SCP)		hiccup mode, auto recovery
Short Circuit Input Current	nom. $V_{IN} = 24VDC$	120mA max.
Isolation Voltage ⁽⁵⁾	1 second	4kVDC
	1 minute	2kVAC/50Hz
Isolation Resistance	I/P to O/P, $V_{ISO} = 500VDC$	1GΩ min.
Isolation Capacitance	I/P to O/P, 100kHz/0.1V	50pF max.
Insulation Grade	according to 62368-1	basic

Notes:

Note5: For repeat Hi-Pot testing, reduce the time and/or the test voltage

Note6: Refer to local safety regulations if input over-current protections is also required. Recommended fuse: slow blow type

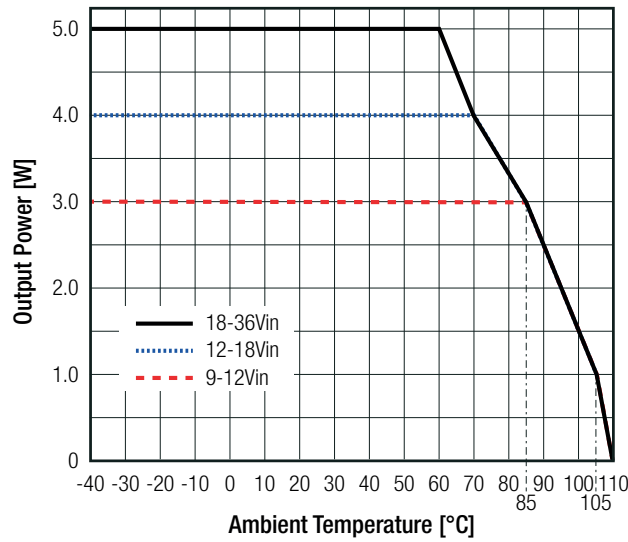
ENVIRONMENTAL

Parameter	Condition		Value
Operating Temperature Range	with derating	refer to "Derating Graph"	-40°C to +110°C
Maximum Case Temperature			+125°C
Operating Altitude			5000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.	$T_{AMB} = +25^{\circ}C$	1408 x 10 ³ hours
		$T_{AMB} = +65^{\circ}C$	684 x 10 ³ hours

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

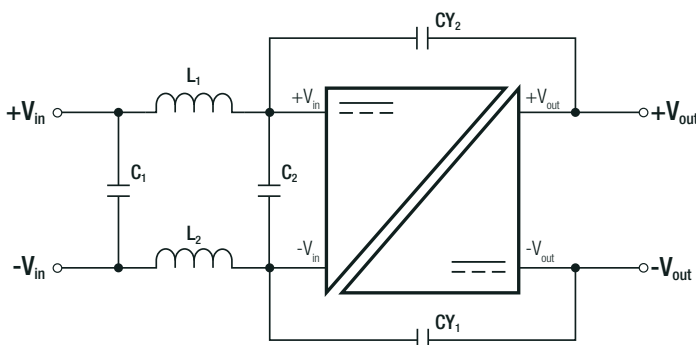
Derating Graph



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Audio/Video, information and communication technology equipment - Part1: Safety requirements 3rd Edition	E491408-A6023-UL	UL62368-1:2019 3rd Edition
		CAN/CSA-C22.2 No. 62368-1-19 3rd Edition
Audio/Video, information and communication technology equipment - Part1: Safety requirements 3rd Edition (CB Scheme)	085-220181201-000	IEC62368-1:2018 3rd Edition
		EN IEC 62368-1:2020+A11:2020
RoHS2		RoHS-2011/65/EU + AM-2015/863
EMC Compliance	Condition	Standard / Criterion
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	with external filter	EN55032, Class B

EMC Filtering Suggestions according to EN55032



Component List Class B

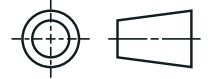
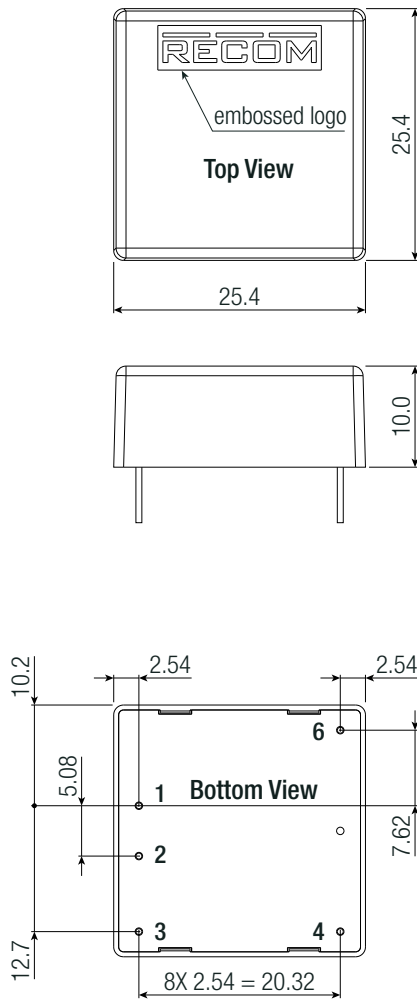
L1/L2	C1/C2	CY1/CY2
RLS-226	22µF	2.2nF

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

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting PCB	black plastic, (UL94 V-0) PU, (UL94 V-0) FR4, (UL94 V-0)
Dimension (LxWxH)		25.4 x 25.4 x 10.0mm
Weight		12g typ.

Dimension Drawing (mm)

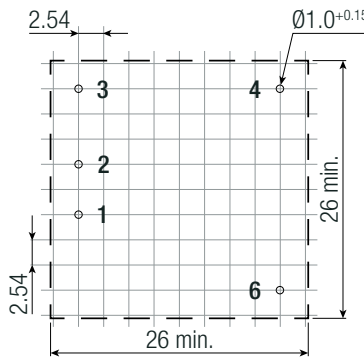


Pinning Information

Pin #	Function
1	+Vin
2	-Vin
3	CTRL
4	-Vout
6	+Vout

NC= No Connection

Recommended Footprint Details



Tolerance:
xx.x = ±0.5mm
xx.xx = ±0.25mm

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	520.0 x 27.5 x 19.3mm
Packaging Quantity		18pcs
Storage Temperature Range		-50°C to +125°C
Storage Humidity	non-condensing	95% RH max.

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