

FEATURES

- 4kVDC/1sec isolation
- Industry standard 5W DIP24 package
- Low ripple and noise
- Derates to 110°C ambient temperature
- Wide 4:1 input
- ON/OFF control pin, UVLO, SCP
- 0% minimum load



Dimensions (LxWxH): 32.1 x 20.6 x 10.2mm (1.26 x 0.81 x 0.40inch)
12.0g (0.03 lbs)

APPLICATIONS



SAFETY & EMC



DESCRIPTION

This series offers 4kVDC/1sec isolation and internal filtering to reduce noise, making it ideal for both industrial and other sophisticated high end applications. The compact DIP24 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]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. [%]	max. Capacitive Load [µF]
REC5K-2405SRW/H4/A	9 - 36	5	1000	78	3000

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

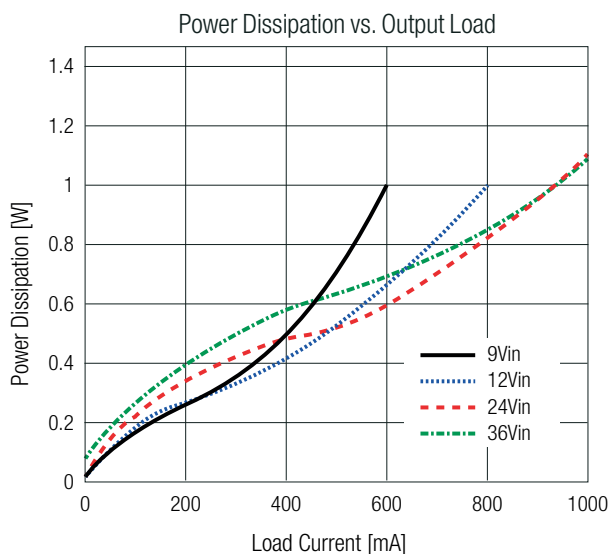
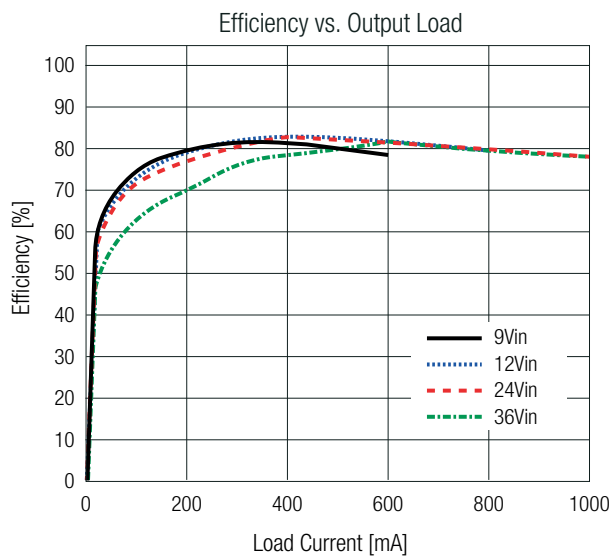
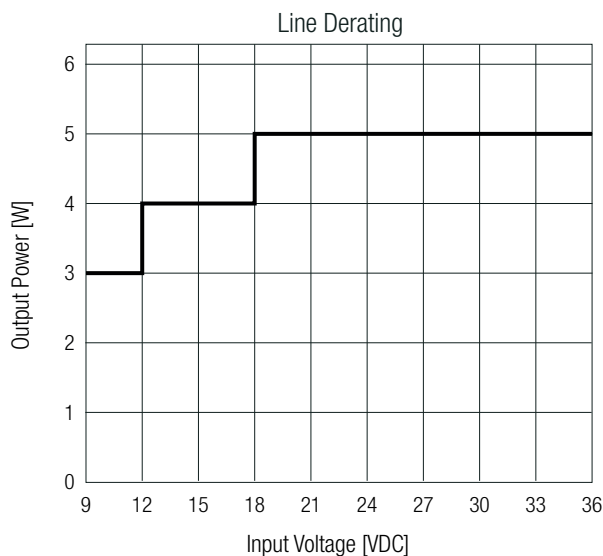
REC5K-RW series

1Amp / DIP24 Single Output

BASIC CHARACTERISTICS (measured @ $T_{AMB} = 25^{\circ}C$, nom. V_{IN} , full load and after warm-up unless otherwise stated)

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	nom. $V_{IN} = 24VDC$	9VDC		36VDC
Input 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			80mVp-p

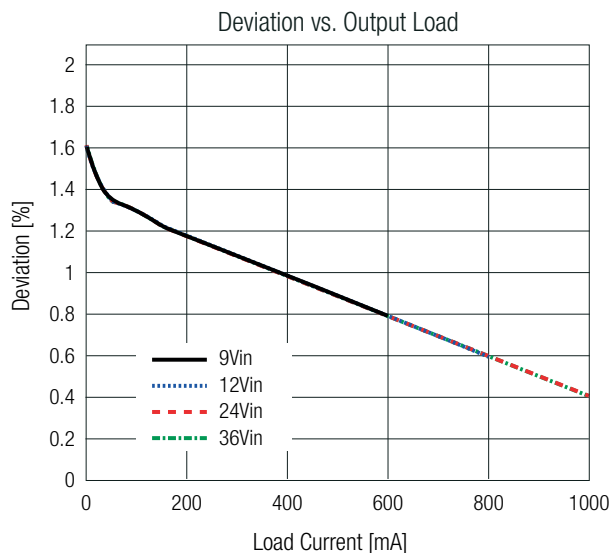
Note3: Measurements are made with a 10µF MLCC across output. (low ESR)



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.
Transient Response Recovery Time	25% load step change (75% - 100%)	500µs

Note4: Operation below 10% load will not harm the converter, but specifications may not be met



PROTECTIONS

Parameter	Condition	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	functional

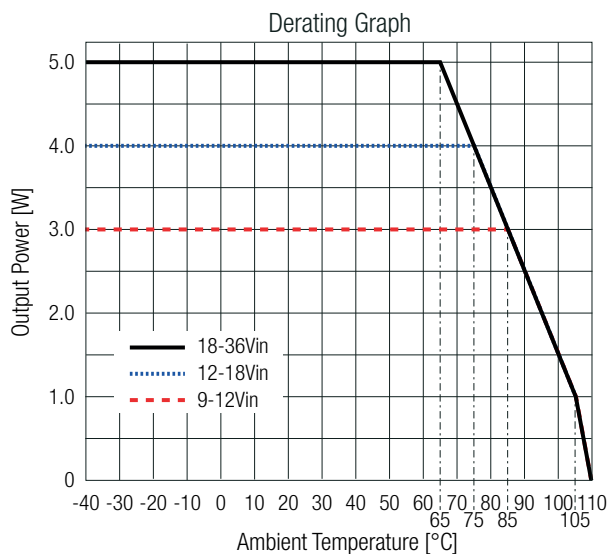
Note5: For repeat Hi-Pot testing, reduce the time and/or the test voltage

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 +100°C	
Maximum Case Temperature		+110°C	
Operating Altitude		5000m	
Operating Humidity	non-condensing	95% RH max.	
Polution Degree		PD2	
MTBF	according to MIL-HDBK-217F, G.B., +25°C	T_{AMB} = +25°C	1741 x 10 ³ hours
		T_{AMB} = +65°C	661 x 10 ³ hours

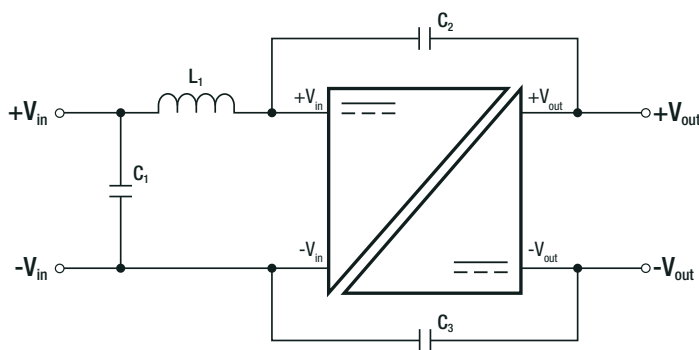
ENVIRONMENTAL



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report Number	Standard
Audio/Video, information and communication technology equipment - Part1: Safety requirements 3rd Edition	E491408-A6026-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)	085-220181101-000	IEC62368-1:2018 3rd Edition
		EN IEC 62368-1:2020+A11:2020
RoHS2		RoHS 2011/65/EU + AM2015/863
EMC Compliance	Condition	Standard /Criterion
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	with external filter	EN55032, Class B

EMC Filtering Suggestions according to EN55032



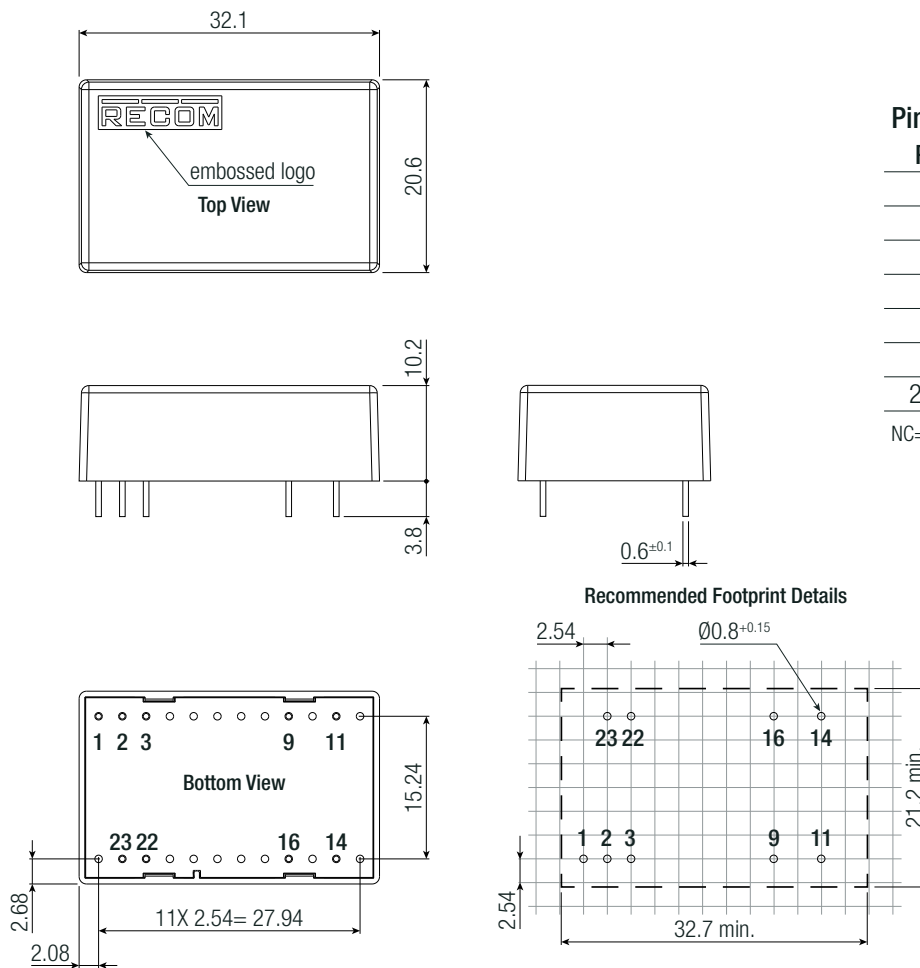
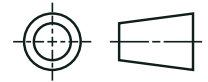
Component List Class B

L1	C1	C2/C3
RLS-226	22μF	1nF/4kVDC

DIMENSION & PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case	black plastic, (UL94 V-0)
	potting	PU, (UL94 V-0)
	PCB	FR4, (UL94 V-0)
Dimension (LxWxH)		32.1 x 20.6 x 10.2mm
		1.26 x 0.81 x 0.40inch
Weight		12g typ.
		0.03 lbs

Dimension Drawing (mm)



Pinning Information

Pin #	Function
1	CTRL
2, 3	-Vin
9	NC
11	NC
14	+Vout
16	-Vout
22, 23	+Vin

NC= No Connection

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

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	512.9 x 22.2 x 20.9mm
Packaging Quantity		14pcs
Storage Temperature Range		-50°C to +125°C
Storage Humidity	non-condensing	95% RH max.

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