Technical Data Sheet

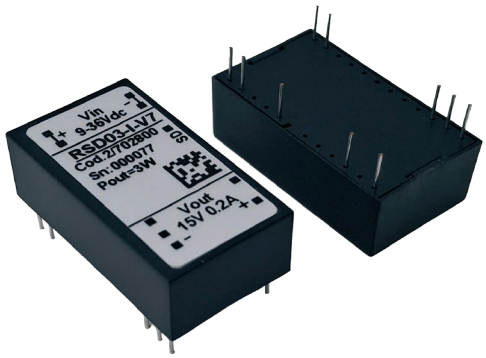
RSD03-I-V7 ◊ Regulated ◊ Customized

3W ◊ Isolated Single Output ◊ 4:1 Input

RECOM
DC/DC Converter

FEATURES

- Pin compatible to SD03-I-V4
- 1.5kVDC isolation
- 9V-36VDC input
- SCP, OCP, OVP
- LxWxH= 32.5 x 18.0 x 12.0mm



Dimensions (LxWxH): 32.5 x 18.0 x 12.0mm (1.28 x 0.71 x 0.47 inch)
11.5g (0.025 lbs)

APPLICATIONS



SAFETY & EMC

RoHS² compliant 10 from 10

Reach compliant

SELECTION GUIDE

Part Number	Input Voltage Range [VDC]	Output Voltage nom. [VDC]	Output Current max. [mA]	Efficiency typ. (1) [%]	Max. Capacitive Load (2) [µF]
RSD03-I-V7	9 - 36	15	200	84	1000

Note1: Efficiency is tested at nominal input (24VDC) and full load at +25°C ambient
Note2: Measured @ T_{AMB}= 25C°, nom. V_{IN}, full load and after warm-up unless otherwise stated

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

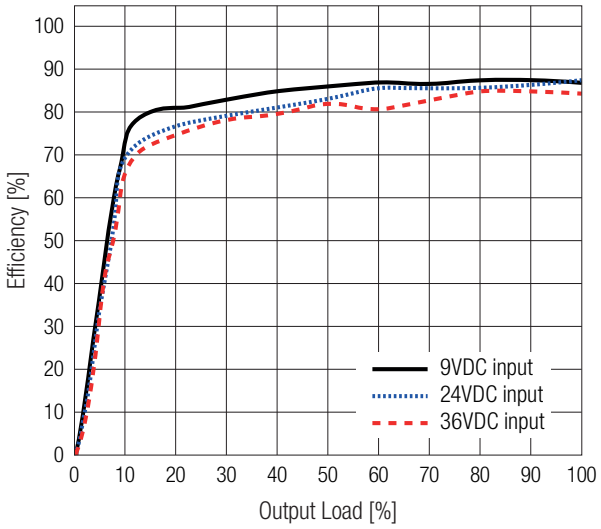
Parameter	Condition	Min.	Typ.	Max.
Internal Input Filter			PI network	
Input Voltage Range		9VDC	24VDC	36VDC
Input Under Voltage Lockout (UVLO)	DC-DC ON	8VDC		8.6VDC
	DC-DC OFF	7VDC		7.6VDC
Input Current				500mA
Quiescent Current			5mA	
Minimum Load		0%		
Startup time				60ms
SD PIN	Operating			Open or 8~30V
	shut down			-0.3~1V
Internal Operating Frequency			330kHz	
Output Ripple and Noise (3)	20MHz BW			75mVp-p

Note3: Measurements are made with a 0.1µF MLCC across output. The test setup can have an impact on ripple noise values (placement of scope probe, capacitors, it's specifications, wires, PCB tracks, distances, etc.)

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

Efficiency vs. Output Load



REGULATIONS

Parameter	Condition	Value
Output Accuracy		±1.0% typ / ±2.0% max.
Line Regulation	low line to high line, full load	±0.5% typ.
Load Regulation	0% to 100% load	±0.5% typ. / ±2.0% max.
Transient Response	25% load step change	750mV max.
	recovery time	250µs typ.

PROTECTIONS

Parameter	Condition		Value
Short Circuit Protection (SCP)	below 100mΩ		continuous, automatic recovery, hiccup
Over Voltage Protection (OVP)	zener diode clamping		16.5V - 21VDC max.
Over Current Protection (OCP)	automatic recovery		110% - 250% max.
Isolation Voltage (4)	I/P to O/P	rated for 1 minute	1.5kVDC
Isolation Resistance	I/P to O/P	V_{ISO}= 500VDC	1GΩ min.
Isolation Capacitance	I/P to O/P	100kHz/0.1V	2000pF typ.
Insulation Grade	according to IEC/EN 62368-1		functional

Note4: For repeat Hi-Pot testing, reduce the time and/or the test voltage
Note5: Refer to local safety regulations if input over-current protections is also required. Recommended fuse: slow blow type

ENVIRONMENTAL

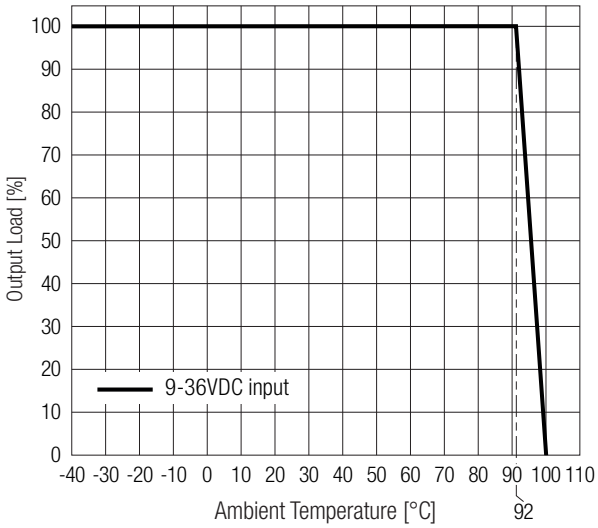
Parameter	Condition		Value
Operating Temperature Range	with derating	refer to **„Derating Graph“**	-40°C to 100°C
Maximum Case Temperature			105°C
Temperature Coefficient			0.02 %/K
Operating Altitude			5000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to IEC 61709	T_{AMB}= +40°C	7900 x 10^3 hours

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ENVIRONMENTAL

Derating Graph

(@ Chamber and natural convection 0.1m/s)



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report Number	Standard
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

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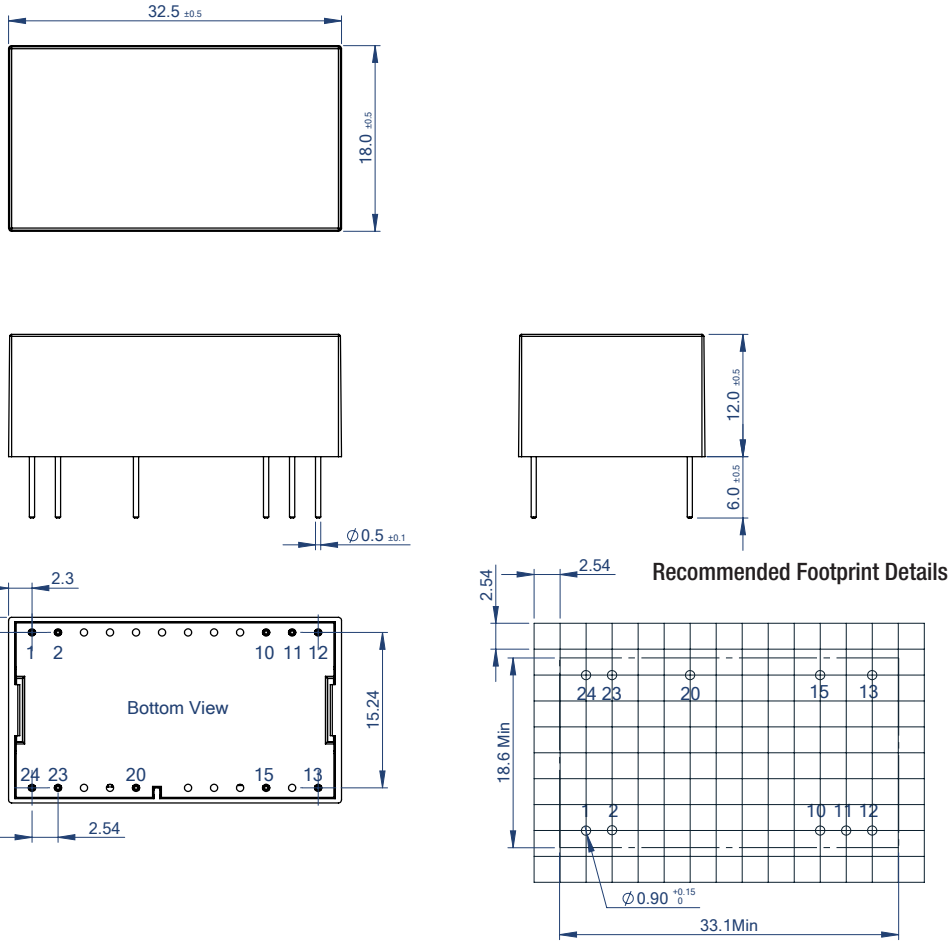
3W ◊ Isolated Single Output ◊ 4:1 Input

RECOM DC/DC Converter

DIMENSION & PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Materials	case	plastic, (UL94 V-0)
	potting	PU, (UL94 V-0)
	PCB	FR4, (UL94 V-0)
Dimension (LxWxH)		32.5 x 18.0 x 12.0mm 1.28 x 0.71 x 0.47inch
Weight		11.5g 0.025lbs

Dimension Drawing



Recommended Footprint Details

Pinning information

Pin #	Single
1	Vin+
2	Vin+
10	NC
11	NC
12	Vout-
13	Vout+
15	NC
20	SD
23	Vin-
24	Vin-

NC= no connection
Tolerances:
x.x= ±0.5mm
x.xx= ±0.25mm

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	512.9 × 22.2 × 20.9mm
Packaging Quantity		14PCS
Storage Temperature Range		-40°C to +125°C
Storage Humidity	non-condensing	95% RH max.

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