

# RS4/RD4-RS10v2

- 7 Pin SIL/ 14Pin DIL Package
- 1000VDC Isolation
- Up to 3000VDC Isolation
- Continuous Short Circuit Protection
- Low Ripple and Noise
- Efficiency up to 68%
- Operating Temperature Range:  
-40° ~ +85°C
- Non Conductive Black Plastic Case
- EMI Complies with EN55022 Class B

RoHS



OUTPUT SPECIFICATION	ENVIRONMENTAL SPECIFICATION
Voltage accuracy: $\pm 2\%$	Operating Temperature range: -40°C ~ +85°C (see Derating Curve)
Line regulation: $\pm 0.5\%$	Maximum Case Temperature: 100°C
LOAD REGULATION: from 0% to 100% Load: $\pm 0.5\%$	Storage Temperature : -40°C ~ +125°C
Output 3.3V Model: $\pm 1.0\%$	Cooling : Nature Convection
Short Circuit Protection : Continuous	PHYSICAL SPECIFICATIONS:
Ripple noise (20Mhz bandwidth): 50mV pk-pk	Case Material: Non-conductive Black Plastic (UL94V-0 rated)
Temperature coefficient: $\pm 0.02\%$ °C	PIN Material: $\varnothing$ 0.5mm Alloy42 Solder-coated
Capacitor load: See table	Potting Material: Epoxy (UL94V-0 rated)
INPUT SPECIFICATIONS	Weight Case- Sip: 2.7g
Voltage Range: $\pm 10\%$	Weight Case-DIP: 2.9g
Max. Input Current: See table	Dimmension SIP: 0.76 x 0.28 x 0.39"
No-Load/Full-Load Input Current: See table	Dimmension DIP: 0.80 x 0.40 x 0.27"
Input Filter: Capacitors	ABSOLUTE MAXIMUM RATINGS (1)
Input Reflected Ripple Current : 20mA pk-pk	Input Surge Voltage (100ms)/
GENERAL SPECIFICATIONS	5 V Models: 7VDC max
Efficiency: See table	12V Models: 15VDC max
I/O Isolation Voltage (60sec): 1000 ~ 3000VDC	24V Models: 28VDC max
I/O Isolation Capacitance: 60pF typ.	Soldering Temperature (2): 260°C max.
I/O Isolation Resistance: 1000M Ohm	EMC SPECIFICATIONS
Switching Frequency: Variable 50kHz	Radiated-/Conducted Emissions: EN55022 Class B
Humidity: 95% rel H	ESD: IEC 61000-4-2 Perf.Criteria A
Reliability Calculated MTBF : > 3.5Mhrs (MIL-HDBK-217 F)	RS: IEC 61000-4-3 Perf.Criteria A
Safety Standard: (designed to meet): IEC 60950-1	EFT: IEC 61000-4-4 Perf.Criteria A
	SURGE: IEC 61000-4-5 Perf.Criteria A
	CS: IEC 61000-4-6 Perf.Criteria A
	PFMF IEC 61000-4-8 Perf.Criteria A

1) These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.

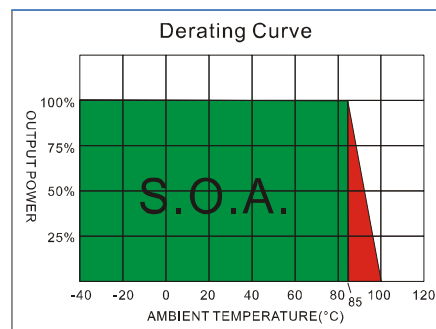
2) (1.5mm from case 10sec Max.)

3) All specifications typical at TA= 25°C, nominal input voltage and full load unless otherwise specified.

4) The information and specification contained in this data sheet are believed to be correct at time of publication. However RSG accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice.

### NUMBER STRUCTURE

<b>RS4</b>	-	<b>XX</b>	<b>XX</b>	<b>X</b>	<b>XX</b>	<b>A</b>	<b>X</b>	<b>v2</b>
Name/Package RS4=SIL7 RD4=DIL14		Input 05=5.0V 12=12V 24=24V	Output 03=3.3V 05=5.0V 07=7.2V 09=9.0V 12=12V 15=15V	Type RS=Regulated Single	Power (W) 10=1.00	Code internal	Isolation (kVDC) 1= 1.0 3= 3.0	



### MODEL SELECTION GUIDE

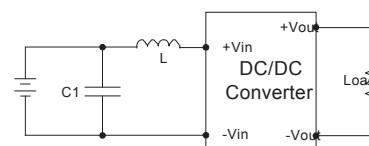
MODEL NUMBER	INPUT	INPUT Current		OUTPUT	OUTPUT Current	EFFICIENCY @FL(%)	Capacitor Load(uF)
	Voltage Range (Vdc)	No-Load (mA)	Full Load (mA)	Voltage (Vdc)	Full load (mA)		
RS4-0503 RS10AXv2	5	30	363	3.3	333	55	220
RS4-0505 RS10AXv2	5	30	312	5	200	64	220
RS4-0507 RS10AXv2	5	30	312	7.2	138.9	64	220
RS4-0509 RS10AXv2	5	35	307	9	111.1	65	220
RS4-0512 RS10AXv2	5	35	303	12	83.3	66	220
RS4-0515 RS10AXv2	5	35	303	15	66.7	66	220
RS4-1203 RS10AXv2	12	20	148	3.3	333	56	220
RS4-1205 RS10AXv2	12	20	130	5	200	64	220
RS4-1207 RS10AXv2	12	20	128	7.2	138.9	65	220
RS4-1209 RS10AXv2	12	20	126	9	111.1	66	220
RS4-1212 RS10AXv2	12	20	126	12	83.3	66	220
RS4-1215 RS10AXv2	12	20	122	15	66.7	68	220
RS4-2403 RS10AXv2	24	10	74	3.3	333	56	220
RS4-2405 RS10AXv2	24	10	66	5	200	63	220
RS4-2407 RS10AXv2	24	10	64	7.2	138.9	65	220
RS4-2409 RS10AXv2	24	10	63	9	111.1	66	220
RS4-2412 RS10AXv2	24	10	62	12	83.3	67	220
RS4-2415 RS10AXv2	24	10	62	15	66.7	67	220
RD4-0503 RS10AXv2	5	30	363	3.3	333	55	220
RD4-0505 RS10AXv2	5	30	312	5	200	64	220
RD4-0507 RS10AXv2	5	30	312	7.2	138.9	64	220
RD4-0509 RS10AXv2	5	35	307	9	111.1	65	220
RD4-0512 RS10AXv2	5	35	303	12	83.3	66	220
RD4-0515 RS10AXv2	5	35	303	15	66.7	66	220
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RD4-2409 RS10AXv2	24	10	63	9	111.1	66	220
RD4-2412 RS10AXv2	24	10	62	12	83.3	67	220
RD4-2415 RS10AXv2	24	10	62	15	66.7	67	220

X = 1 means 1kVDC, X = 3 means 3kVDC isolation

1. Ripple/Noise measured with 20MHz bandwidth.
2. Tested by minimal  $V_{in}$  and constant resistive load.
3. Measured Input reflected ripple current with a simulated source inductance of 12uH.
4. Input filter components (C1, L) are used to help meet EMC requirement for the module.  
These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.
5. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
6. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.

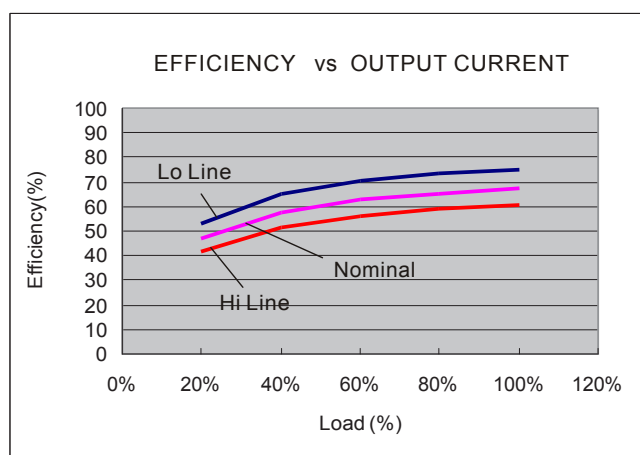
### EMI Filter

Input filter components (C1, L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.

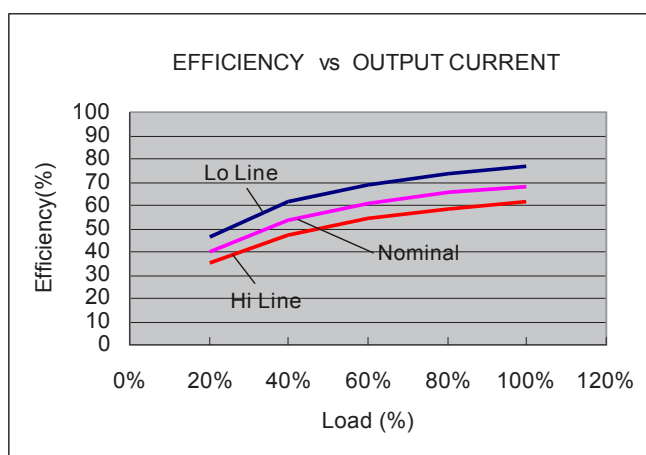


	C1	L
RS4/RD4-05XXRS10AXv2	470uF/100V	12uH
RS4/RD4-12XXRS10AXv2	470uF/100V	12uH
RS4/RD4-24XXRS10AXv2	470uF/100V	12uH

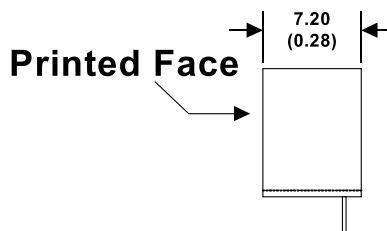
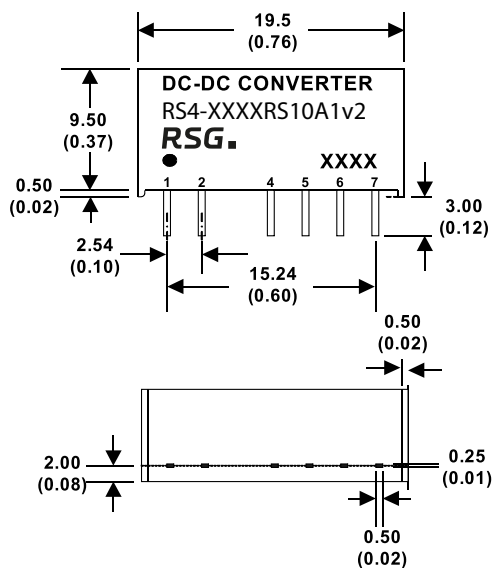
### 5V Mode



### 12V Mode



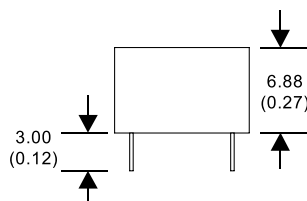
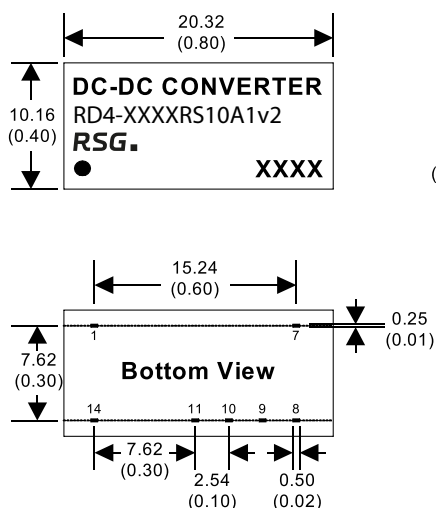
# RS4/RD4-RS10v2



## 7 Pin SIL Package

Notes : All dimensions are typical in millimeters ( inches ).

1. Pin diameter:  $0.5 \pm 0.05$  (  $0.02 \pm 0.002$  )
2. Pin pitch and length tolerance:  $\pm 0.35$  (  $\pm 0.014$  )
3. Case Tolerance:  $\pm 0.5$  (  $\pm 0.02$  )



## 14 Pin DIL Package

Notes : All dimensions are typical in millimeters ( inches ).

1. Pin diameter:  $0.5 \pm 0.05$  (  $0.02 \pm 0.002$  )
2. Pin pitch and length tolerance:  $\pm 0.35$  (  $\pm 0.014$  )
3. Case Tolerance:  $\pm 0.5$  (  $\pm 0.02$  )

## DIL 14

PIN CONNECTIONS		
PIN NUMBER	SINGLE	SINGLE-H
1	-V Input	-V Input
7	N.C.	N.C.
8	N.P.	+V Output
9	+V Output	N.P.
10	N.P.	-V Output
11	-V Output	N.P.
14	+V Input	+V Input

## SIL 7

PIN CONNECTIONS		
PIN NUMBER	SINGLE	SINGLE-H
1	+V Input	+V Input
2	-V Input	-V Input
4	-V Output	N.P.
5	N.P.	-V Output
6	+V Output	N.P.
7	N.P.	+V Output

The models listed above are standard types. If you need special specifications or have questions regarding packing (Tube or Tape&Reel) or need application support, please contact our specialists: [sales@rsg-electronic.de](mailto:sales@rsg-electronic.de) or +49 69-984047-0