

# RS4/RD4-R10M

- 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: ±2%	Operating Temperature range: -40°C ~+85°C (see Derating Curve)
Line regulation: ±0.5%	Maximum Case Temperature: 100°C
LOAD REGULATION: from 0% to 100% Load: ±0.5%	Storage Temperature : -40°C ~+125°C
Output 3.3V Model: ±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: ±0.02% °C	PIN Material: Ø 0.5mm Alloy42 Solder-coated
Capacitor load: See table	Potting Material: Epoxy (UL94V-0 rated)
INPUT SPECIFICATIONS	Weight Case- Sip: 2.7g
Voltage Range: ±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)/
	5 V Models: 7VDC max
	12V Models: 15VDC max
	24V Models: 28VDC max
	Soldering Temperature (2): 260°C max.
GENERAL SPECIFICATIONS	EMC SPECIFICATIONS
Efficiency: See table	Radiated-/Conducted Emissions: EN55022 Class B
I/O Isolation Voltage (60sec): 1000 ~ 3000VDC	ESD: IEC 61000-4-2 Perf.Criteria A
I/O Isolation Capacitance: 60pF typ.	RS: IEC 61000-4-3 Perf.Criteria A
I/O Isolation Resistance: 1000M Ohm	EFT: IEC 61000-4-4 Perf.Criteria A
Switching Frequency: Variable 50kHz	SURGE: IEC 61000-4-5 Perf.Criteria A
Humidity: 95% rel H	CS: IEC 61000-4-6 Perf.Criteria A
Reliability Calculated MTBF : > 3.5Mhrs (MIL-HDBK-217 F)	PFMF IEC 61000-4-8 Perf.Criteria A
Safety Standard: (designed to meet): IEC 60950-1	

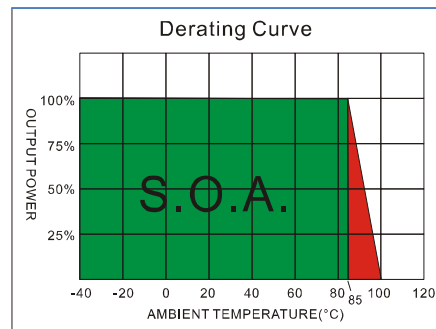
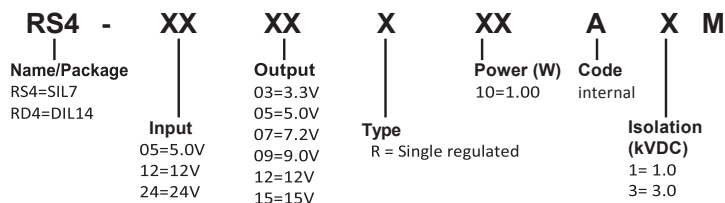
1) These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.

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**



**MODEL SELECTION GUIDE**

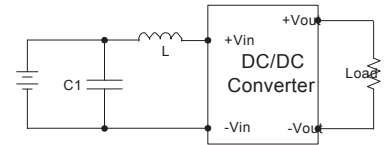
MODEL NUMBER	INPUT	INPUT Current		OUTPUT	OUTPUT Current	EFFICIENCY @FL(%)	Capacitor Load(uF)
	Voltage Range (Vdc)	No-Load (mA)	Full Load (mA)	Voltage (Vdc)	Full load (mA)		
RS4-0503R10AXM	5	30	363	3.3	333	55	220
RS4-0505 R10AXM	5	30	312	5	200	64	220
RS4-0507 R10AXM	5	30	312	7.2	138.9	64	220
RS4-0509 R10AXM	5	35	307	9	111.1	65	220
RS4-0512 R10AXM	5	35	303	12	83.3	66	220
RS4-0515 R10AXM	5	35	303	15	66.7	66	220
RS4-1203 R10AXM	12	20	148	3.3	333	56	220
RS4-1205 R10AXM	12	20	130	5	200	64	220
RS4-1207 R10AXM	12	20	128	7.2	138.9	65	220
RS4-1209 R10AXM	12	20	126	9	111.1	66	220
RS4-1212 R10AXM	12	20	126	12	83.3	66	220
RS4-1215 R10AXM	12	20	122	15	66.7	68	220
RS4-2403 R10AXM	24	10	74	3.3	333	56	220
RS4-2405 R10AXM	24	10	66	5	200	63	220
RS4-2407 R10AXM	24	10	64	7.2	138.9	65	220
RS4-2409 R10AXM	24	10	63	9	111.1	66	220
RS4-2412 R10AXM	24	10	62	12	83.3	67	220
RS4-2415 R10AXM	24	10	62	15	66.7	67	220
RD4-0503 R10AXM	5	30	363	3.3	333	55	220
RD4-0505 R10AXM	5	30	312	5	200	64	220
RD4-0507 R10AXM	5	30	312	7.2	138.9	64	220
RD4-0509 R10AXM	5	35	307	9	111.1	65	220
RD4-0512 R10AXM	5	35	303	12	83.3	66	220
RD4-0515 R10AXM	5	35	303	15	66.7	66	220
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RD4-2412 R10AXM	24	10	62	12	83.3	67	220
RD4-2415 R10AXM	24	10	62	15	66.7	67	220

Suffix "3" means 3 kVdc isolation  
M-Type with Continue short Current Protection

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.

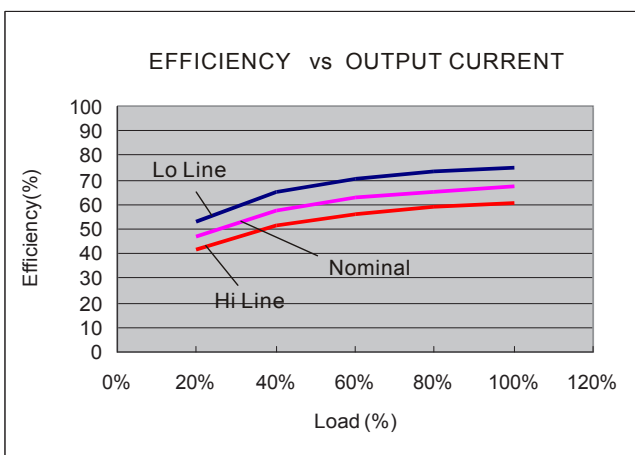
### EMI Filter

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.

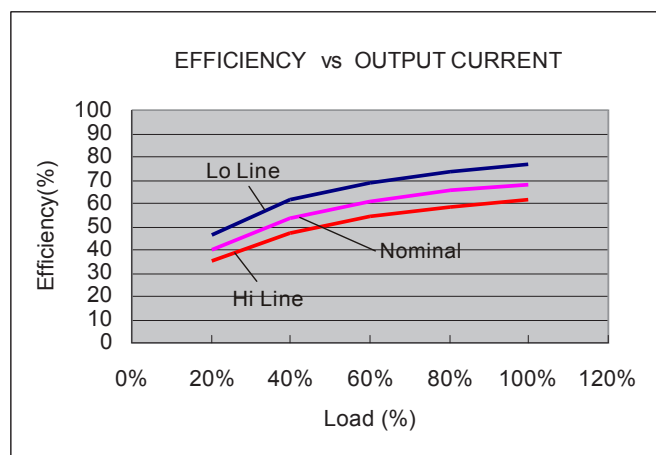


	C1	L
RS4/RD4-05XXR10AXM	470uF/100V	12uH
RS4/RD4-12XXR10AXM	470uF/100V	12uH
RS4/RD4-24XXR10AXM	470uF/100V	12uH

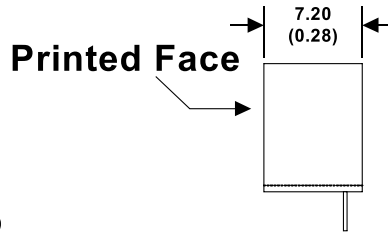
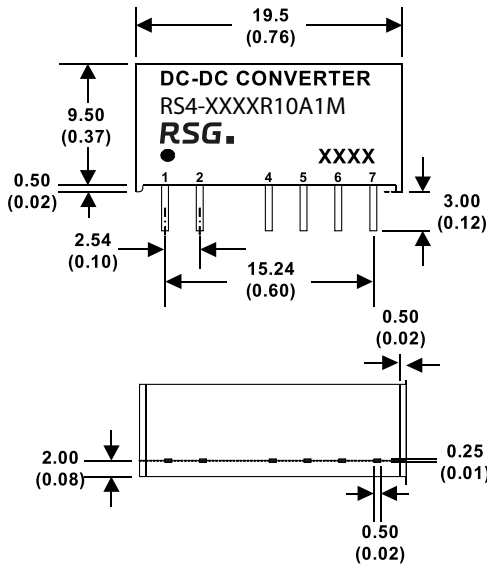
5V Mode



12V Mode

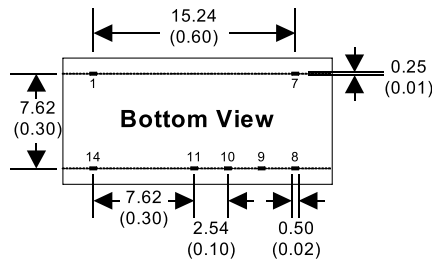
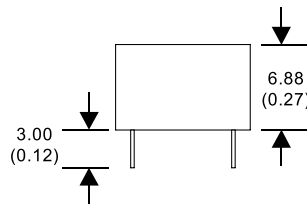
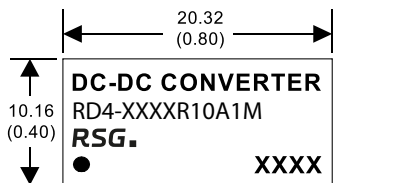


**RS4/RD4-R10M**



**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 here are just standard type. If you need a product with special specification or you have questions regarding packing standards (Tube oder Tape/Reel) as well as application support, please contact our specialists: [sales@rsg-electronic.de](mailto:sales@rsg-electronic.de) or +49 69-984047-41/-28