

**RS7-S10/D10**

- 7 Pin SIL Package
- 6000VDC High Isolation
- Physical Clearance of Isolation Barrier 2.5mm
- Long Term Short Circuit Protection
- Low Ripple and Noise
- Efficiency up to 81%
- Operating Temperature Range -40° ~ +85°C
- Non Conductive Black Plastic Case

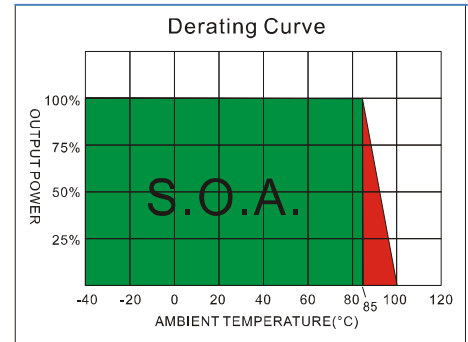
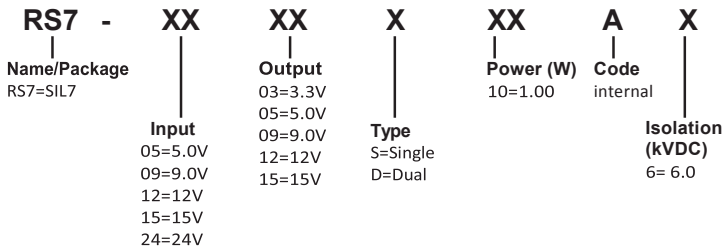


OUTPUT SPECIFICATION	ENVIRONMENTAL SPECIFICATION
Voltage accuracy: ±3%	Operating Temperature range: -40°C ~+85°C (see Derating Curve)
Line regulation: 1.2%/ per 1% Vin Change max.	Maximum Case Temperature: 100°C
LOAD REGULATION: from 10% to 100% Load: ±10%	Storage Temperature : -40°C ~+125°C
Short Circuit Protection : Indefinite (Automatic Recovery)	Cooling : Nature Convection
Ripple noise (20Mhz bandwidth): 200mV pk-pk	<b>PHYSICAL SPECIFICATIONS:</b>
Temperature coefficient: ±0.03%/°C	Case Material: Epoxy encapsulated (UL94V-0 rated)
Capacitor load: See table	Clearance Distance Inp./Outp. 2.5mm
<b>INPUT SPECIFICATIONS</b>	PIN Material: 0.5mm Alloy42 Solder-coated
Voltage Range: ±10% max.	Weight Case- Sip: 4.2g, typ.
Max. Input Current: See table	Potting Material: Epoxy (UL94V-0 rated)
No-Load/Full-Load Input Current: See table	Dimmension SIP: 0.77 x 0.39 x 0.49"
Input Filter: Capacitors	<b>ABSOLUTE MAXIMUM RATINGS (1)</b>
Input Reflected Ripple Current : 20mA rms	Input Surge Voltage (100ms)/
(rms thru 12uH inductor , 5Hz to 20MHz)	5V Models: 7VDC max
<b>GENERAL SPECIFICATIONS</b>	12V Models: 15VDC max
Efficiency: See table	15V Models: 18VDC max
I/O Isolation Voltage (60sec): 6000VDC	24V Models: 28VDC max
I/O Isolation Capacitance: 10pF typ.	Soldering Temperature: 260°C max.
I/O Isolation Resistance: 1000M Ohm, min	<b>EMC SPECIFICATIONS (2)</b>
Switching Frequency: 20kHz - 50kHz	Radiated-/Conducted Emissions: EN55022 Class B see EMI Filter
Humidity: 95% rel H	ESD: IEC 61000-4-2 Perf.Criteria A
Reliability Calculated MTBF : >2.39Mhrs	RS: IEC 61000-4-3 Perf.Criteria A
(MIL-HDBK-217 f)	EFT: IEC 61000-4-4 Perf.Criteria A
Safety Standard: (designed to meet): IEC 60950-1	SURGE: IEC 61000-4-5 Perf.Criteria A
	CS: IEC 61000-4-6 Perf.Criteria A
	PFFM 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.

RS7-S10/D10

NUMBER STRUCTURE



MODEL SELECTION GUIDE

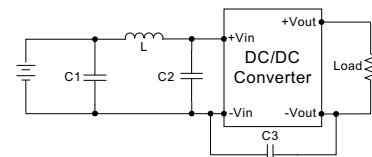
MODEL NUMBER	INPUT Voltage Range (Vdc)	OUTPUT		EFFICIENCY @FL(%)	Capacitor Load(uF)
		Voltage(Vdc)	Current(mA)		
RS7-XX03S10A6	5, 9, 12, 15, 24	3.3	303	69 - 75	220
RS7-XX05S10A6	5, 9, 12, 15, 24	5	200	70 - 77	220
RS7-XX09S10A6	5, 9, 12, 15, 24	9	111.1	70 - 80	220
RS7-XX12S10A6	5, 9, 12, 15, 24	12	83.3	70 - 80	220
RS7-XX15S10A6	5, 9, 12, 15, 24	15	66.7	70 - 80	220
RS7-XX03D10A6	5, 9, 12, 15, 24	±3.3	±151.5	68 - 75	±100
RS7-XX05D10A6	5, 9, 12, 15, 24	±5	±100	70 - 78	±100
RS7-XX09D10A6	5, 9, 12, 15, 24	±9	±55.6	70 - 81	±100
RS7-XX12D10A6	5, 9, 12, 15, 24	±12	±41.7	72 - 81	±100
RS7-XX15D10A6	5, 9, 12, 15, 24	±15	±33.3	70 - 81	±100
RS7-XX1509D10A6	5, 9, 12, 15, 24	+15/-9	+33.3/-55.5	79 - 86	±100

XX=Input Voltage

TEST CONFIGURATIONS

EMI Filter

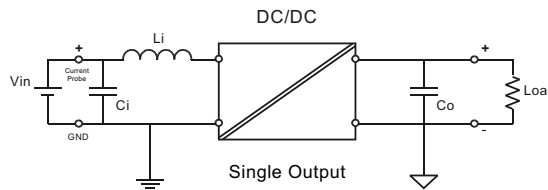
Input filter components (C1, L, C2, C3) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.



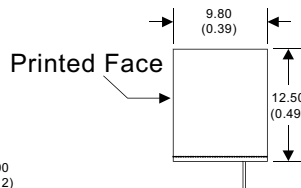
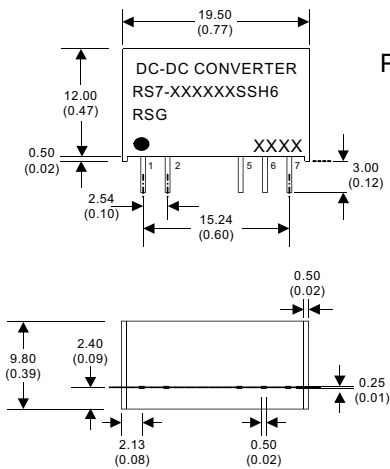
	C1	L	C2	C3
RS7-03XXXXXX	1210, 2.2uF/100V	18uH		
RS7-05XXXXXX	1210, 2.2uF/100V	18uH		
RS7-12XXXXXX	1210, 2.2uF/100V	18uH		
RS7-15XXXXXX	1210, 2.2uF/100V	18uH		
RS7-24XXXXXX	1210, 2.2uF/100V	18uH	1210, 2.2uF/100V	1206, 470pF/2KV
RS7-48XXXXXX	Electrolytic capacitor, 10uF/100V	18uH	1210, 2.2uF/100V	1206, 470pF/2KV

**NOTE**

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 12 $\mu$ H.
4. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
5. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
6. Input filter components are required to help meet conducted emission class B, which application refer to the EMI Filter of design & feature configuration.
7. An external filter capacitor is required if the module has to meet IEC61000-4-4. The filter capacitor RSG suggest: Nippon - chemi- con KY series, 470 $\mu$ F/100V.
8. For reduce converter's ripple & noise, it is recommended to add a 4.7 $\mu$ F~100 $\mu$ F ( $\pm$ 4.7 $\mu$ F~ $\pm$ 68 $\mu$ F for dual output) capacitor in output end. For EMI performance improvement, it is recommended to add a 12 $\mu$ H inductor and a 10 $\mu$ F~100 $\mu$ F capacitor in input end.



**MECHANICAL SPECIFICATIONS**



**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 )

PIN CONNECTIONS		
PIN NUMBER	SINGLE	DUAL
1	+V Input	+V Input
2	-V Input	-V Input
5	-V Output	-V Output
6	N.P.	Common
7	+V Output	+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 or +49 69-984047-41/-28