

RS1/RD1-S15

- 4 Pin SIL/ 8Pin DIL Package
- 1000VDC Isolation
- Up to 3000VDC Isolation
- Low Ripple and Noise
- Efficiency up to 88%
- Operating Temperature Range
-40° ~ +85°C
- Non Conductive Black Plastic Case

RoHS



OUTPUT SPECIFICATION	ENVIRONMENTAL SPECIFICATION
Voltage accuracy: $\pm 3\%$	Operating Temperature range: -40°C ~ +85°C (see Derating Curve)
Line regulation: $\pm 1.2\%$ (per 1%Vin Change)	Maximum Case Temperature: 100°C
LOAD REGULATION: $\pm 10\%$ (from 20 to 100%) Load	Storage Temperature : -40°C ~ +125°C
Output 3.3V Model: $\pm 20\%$	Cooling : Nature Convection
Ripple noise (20Mhz bandwidth): 100mV pk-pk	PHYSICAL SPECIFICATIONS:
Temperature coefficient: $\pm 0.02\%$ °C	Case Material: Non-conductive Black Plastic (UL94V-0 rated)
Capacitor load: see table	PIN Material SIP Case: $\varnothing$ 0.5mm Alloy42 Solder-coated
INPUT SPECIFICATIONS	PIN Material DIP Case: $\varnothing$ 0.5mm Brass Solder-coated
Voltage Range: $\pm 10\%$	Potting Material: Epoxy (UL94V-0 rated)
Max. Input Current: see table	Weight Case- Sip: 1.5g
No-Load/Full-Load Input Current: see table	Weight Case-DIP: 1.8g
Input Filter: Capacitors	Dimmension SIP: 0.46 x 0.24 x 0.40"
Input Reflected Ripple Current : 20mA pk-pk	Dimmension DIP: 0.50 x 0.40 x 0.27"
GENERAL SPECIFICATIONS	ABSOLUTE MAXIMUM RATINGS (1)
Efficiency: See table	Input Surge Voltage (100ms)/
I/O Isolation Voltage (60sec): 1000 ~ 3000VDC	5 V Models: 7VDC max
I/O Isolation Capacitance: 60pF typ.	12V Models: 15VDC max
I/O Isolation Resistance: 1000M Ohm	24V Models: 28VDC max
Switching Frequency: Variable 80kHz	48V Models: 54VDC max
Humidity: 95% rel H	Soldering Temperature ⁽²⁾ : 260°C max.
Reliability Calculated MTBF : >1.121Mhrs (MIL-HDBK-217 f)	
Safety Standard: (designed to meet): IEC 60950-1	

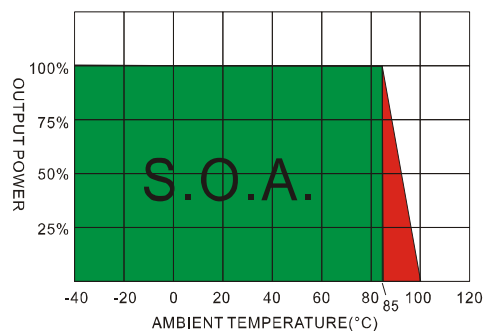
- 1) These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.
- 2) (1.5mm from case 10sec Max.)
- 3) All specifications typical at TA= 25°C, nominal input voltage and full load unless otherwise specified.
- 4) The information and specification 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.

RS1/RD1-S15

NUMBER STRUCTURE

RD1	-	XX	XX	X	XX	A	X
Name/Package RS1=SIL4 RD1=DIL8		Input 03=3.3V 05=5.0V 07=7.2V 09=9.0V 12=12V 15=15V 24=24V 48=48V	Output 03=3.3V 05=5.0V 07=7.2V 09=9.0V 12=12V 15=15V 18=18V 24=24V	Type S=Single D=Dual E= Dual separ.	Power (W) 02=0.25 05=0.50 10=1.00 15=1.50 20=2.0	Code internal	Isolation (kVDC) 1= 1.0 3= 3.0

Derating Curve



MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current		EFFICIE NCY	Capac itor Load(µF)
		No-Load (mA)	Full Load (mA)		Full load (mA)			
RS1-0503S15AX	5	30	370	3.3	400	81	220	
RS1-0505S15AX	5	30	380	5	300	79	220	
RS1-0507S15AX	5	35	366	7.2	208	82	220	
RS1-0509S15AX	5	25	400	9	166	75	220	
RS1-0512S15AX	5	25	385	12	125	78	220	
RS1-0515S15AX	5	30	375	15	100	80	220	
RS1-0518S15AX	5	30	353	18	83	85	220	
RS1-0524S15AX	5	35	357	24	63	84	220	
RS1-1203S15AX	12	15	167	3.3	400	75	220	
RS1-1205S15AX	12	25	156	5	300	80	220	
RS1-1207S15AX	12	25	167	7.2	208	75	220	
RS1-1209S15AX	12	20	151	9	166	83	220	
RS1-1212S15AX	12	15	152	12	125	82	220	
RS1-1215S15AX	12	15	156	15	100	80	220	
RS1-1218S15AX	12	15	156	18	83	80	220	
RS1-1224S15AX	12	15	164	24	63	76	220	
RS1-2403S15AX	24	15	83	3.3	400	75	220	
RS1-2405S15AX	24	15	76	5	300	82	220	
RS1-2407S15AX	24	10	78	7.2	208	80	220	
RS1-2409S15AX	24	10	78	9	167	80	220	
RS1-2412S15AX	24	15	74	12	125	84	220	
RS1-2415S15AX	24	10	74	15	100	84	220	
RS1-2418S15AX	24	10	78	18	83	80	220	
RS1-2424S15AX	24	8	71	24	63	88	220	
RS1-4803S15AX	48	10	42	3.3	400	75	220	
RS1-4805S15AX	48	10	42	5	300	75	220	
RS1-4807S15AX	48	8	41	7.2	208	76	220	
RS1-4809S15AX	48	8	41	9	167	76	220	
RS1-4812S15AX	48	6	41	12	125	77	220	
RS1-4815S15AX	48	6	41	15	100	77	220	
RS1-4818S15AX	48	6	41	18	83	77	220	
RS1-4824S15AX	48	6	40	24	63	78	220	

Suffix "3" means 3kVdc isolation

RS1/RD1-S15

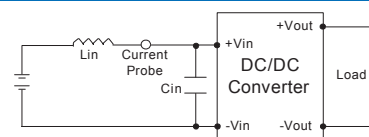
Suffix "3" means 3KVdc isolation

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current Full Load (mA)	EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)				
RD1-0505S15AX	5	35	390	3.3	400	77	220
RD1-0507S15AX	5	30	385	5	300	78	220
RD1-0509S15AX	5	30	400	7.2	208	75	220
RD1-0512S15AX	5	25	400	9	167	75	220
RD1-0515S15AX	5	25	370	12	125	81	220
RD1-0518S15AX	5	25	366	15	100	82	220
RD1-0524S15AX	5	25	375	18	83	80	220
RD1-1203S15AX	5	30	361	24	63	83	220
RD1-1205S15AX	12	15	170	3.3	400	74	220
RD1-1207S15AX	12	15	154	5	300	81	220
RD1-1209S15AX	12	25	164	7.2	208	76	220
RD1-1212S15AX	12	15	149	9	167	84	220
RD1-1215S15AX	12	15	156	12	125	80	220
RD1-1218S15AX	12	15	156	15	100	80	220
RD1-1224S15AX	12	15	156	18	83	80	220
RD1-0505S15AX	12	15	164	24	63	76	220
RD1-1524S15AX	24	10	83	3.3	400	75	220
RD1-2403S15AX	24	9	76	5	300	82	220
RD1-2405S15AX	24	10	75	7.2	208	83	220
RD1-2407S15AX	24	10	74	9	167	85	220
RD1-2409S15AX	24	10	78	12	125	80	220
RD1-2412S15AX	24	8	76	15	100	82	220
RD1-2415S15AX	24	8	78	18	83	80	220
RD1-2418S15AX	24	9	76	24	63	82	220

TEST CONFIGURATION

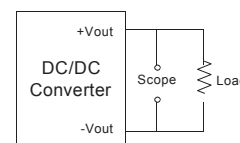
Input Reflected Ripple Current Test Step

Input reflected ripple current is measured through a source inductor L_{in} (12uH) and a source capacitor C_{in} (47uF, ESR<1.0Ω at 100KHz) at nominal input and full load.



Output Ripple & Noise Measurement Test

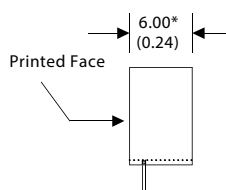
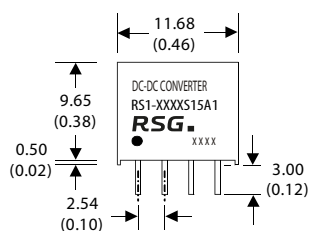
The Scope measurement bandwidth is 20MHz .



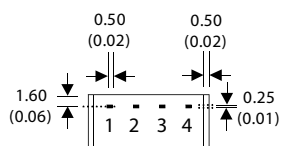
NOTE

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 12uH.
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.

RS1/RD1-S15



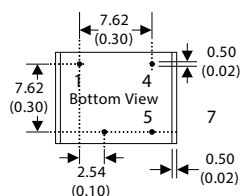
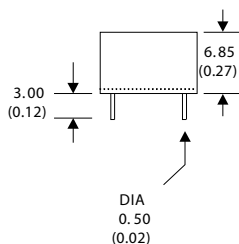
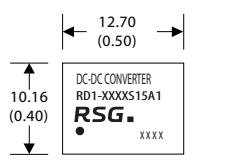
* The thickness of 48V input voltage model is 7.50(0.29)



4 Pin SIL Package

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

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



8 Pin DIL Package

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

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

8 PIN DIL

PIN CONNECTIONS	
PIN NUMBER	SINGLE
1	-V Input
4	+V Input
5	+V Output
7	-V Output

(The Pin Connection of high isolation one is the same with normal one.

4 PIN SIL

PIN CONNECTIONS	
PIN NUMBER	SINGLE
1	-V Input
2	+V Input
3	-V Output
4	+V Output

(The Pin Connection of high isolation one is the same with normal one.

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