

RS5-R30/RD30

- 8 Pin SIL Package
- Wide 2:1 Input Range
- 1600VDC Isolation
- Continuous Short Circuit Protection
- Efficiency up to 84%
- Operating Temperature Range
-40° ~ +85°C
- Plastic Case Standard , Metal Case (optional)
- Remote on/off control (optional)

RoHS



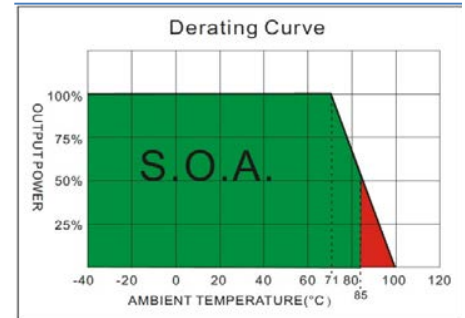
OUTPUT SPECIFICATION	ENVIRONMENTAL SPECIFICATION
Voltage accuracy: $\pm 1\%$	Operating Temperature range: -40°C ~ +85°C (see Derating Curve)
Maximum Output Current: See table	Maximum Case Temperature: 100°C
Line regulation: $\pm 0.5\%$ max.	Storage Temperature : -40°C ~ +125°C
LOAD REGULATION: From 25% to 100% Loading $\pm 1\%$ max	Cooling : Nature Convection
Cross Regulation (Dual Output): $\pm 5\%$	PHYSICAL SPECIFICATIONS:
Short Circuit Protection : Indefinite (Automatic Recovery)	PIN Material: Non conductive black plastic
Ripple noise (20Mhz bandwidth): 75mV pk-pk max.	PIN Material SIP Case: C519R-H Solder -coated
Temperature coefficient: $\pm 0.02\%$ °C	Potting Material: Epoxy (UL94V-0 rated)
Capacitor load: See table	Weight Case- Sip: 4.8g, typ.
Transient Recovery Time: 300us, typ.	Dimmension SIP: 0.86 x 0.36 x 0.44"
Transient Response: (Deviation) $\pm 3\%$ max.	ABSOLUTE MAXIMUM RATINGS (1)
INPUT SPECIFICATIONS	Input Surge Voltage (100ms)/ max.
Voltage Range: See table	5 V Models: 15VDC max.
Start up Time: 20ms, typ.	12V Models: 36VDC max.
Max. Input Current: See table	24V Models: 50VDC max.
No-Load/Full-Load Input Current: See table	48V Models: 100VDC max.
Input Filter: Capacitors	Soldering Temperature: 260°C max. (2)
Input Reflected Ripple Current : 35mA pk-pk	EMC SPECIFICATIONS
GENERAL SPECIFICATIONS	Radiated-/Conducted Emissions: EN55022 Class A (see EMI Filter note)
Efficiency: See table	ESD: IEC 61000-4-2 Perf.Criteria A
I/O Isolation Voltage (60sec): 1600VDC	RS: IEC 61000-4-3 Perf.Criteria A
I/O Isolation Capacitance: 680pF max.	EFT: IEC 61000-4-4 Perf.Criteria A
I/O Isolation Resistance: 1000M Ohm, min	SURGE: IEC 61000-4-5 Perf.Criteria A
Switching Frequency: 100 - 650kHz	CS: IEC 61000-4-6 Perf.Criteria A
Humidity: 95% rel H	PFMF IEC 61000-4-8 Perf.Criteria A
Reliability Calculated MTBF : > 1.34Mhrs (MIL-HDBK-217 f)	
Safety Standard: (designed to meet): IEC EN 60950-1	
Remote on Controll: on: open or high impedance	
Remote off Controll: off: 3-6mA input current (via 1K)	
Off stand by current (Nominal Vin): 3mA max.	

- 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

RS5	-	XX	XX	XX	30	A	X	* X
Name/Package RS5=SIL8 RD5=DIL16		Input 05=4.5-9.0V 12=9.0-18V 24=18-36V 48=36-72V	Output 03=3.3V 05=5.0V 12=12V 15=15V	Type R = Single regulated RD= Dual regulated	Power (W) 30=3.00	Code internal	Isolation (kVDC) 1= 1.6	

* Optional
M= metal case
C= Control Pin



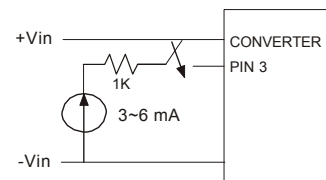
MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current		EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)		Min. load (mA)	Full load (mA)		
RS5-0503R30A1	4.5-9	65	640	3.3	175	700	74	2200
RS5-0505R30A1	4.5-9	70	800	5	150	600	76	2200
RS5-0512R30A1	4.5-9	75	750	12	62.5	250	82	470
RS5-0515R30A1	4.5-9	75	750	15	50	200	82	470
RS5-1203R30A1	9-18	25	260	3.3	175	700	76	2200
RS5-1205R30A1	9-18	15	320	5	150	600	81	2200
RS5-1212R30A1	9-18	35	305	12	62.5	250	84	470
RS5-1215R30A1	9-18	35	305	15	50	200	84	220
RS5-2403R30A1	18-36	15	133	3.3	175	700	74	2200
RS5-2405R30A1	18-36	15	160	5	150	600	79	2200
RS5-2412R30A1	18-36	20	156	12	62.5	250	82	470
RS5-2415R30A1	18-36	20	152	15	50	200	84	470
RS5-4803R30A1	36-72	10	66	3.3	175	700	75	2200
RS5-4805R30A1	36-72	10	82	5	150	600	78	2200
RS5-4812R30A1	36-72	15	78	12	62.5	250	81	470
RS5-4815R30A1	36-72	15	78	15	50	200	81	220
RS5-0505RD30A1	4.5-9	90	800	±5	±75	±300	77	±470
RS5-0512RD30A1	4.5-9	90	760	±12	±31.25	±125	81	±220
RS5-0515RD30A1	4.5-9	90	750	±15	±25	±100	82	±100
RS5-1205RD30A1	9-18	45	320	±5	±75	±300	80	±470
RS5-1212RD30A1	9-18	45	308	±12	±31.25	±125	83	±220
RS5-1215RD30A1	9-18	45	312	±15	±25	±100	82	±100
RS5-2405RD30A1	18-36	20	160	±5	±75	±300	80	±470
RS5-2412RD30A1	18-36	20	154	±12	±31.25	±125	83	±220
RS5-2415RD30A1	18-36	20	154	±15	±25	±100	83	±100
RS5-4805RD30A1	36-72	15	82	±5	±75	±300	78	±470
RS5-4812RD30A1	36-72	20	80	±12	±31.25	±125	80	±220
RS5-4815RD30A1	36-72	15	78	±15	±25	±100	81	±100

Suffix "C" means with control pin

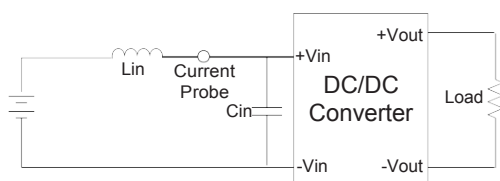
Suffix "M" means with Metal Case

1. Operation at no load condition will not damage the produce ; however, it will not meet all specifications.
2. One load is 25% to 100% load, the other load is 100% load, the output voltage variable rate is within $\pm 5\%$.
3. Measured with 20MHz bandwidth .
4. Test by minimal V_{in} and constant resistive load.
5. Test by normal V_{in} and 100%-25% load, 25% load step change .
6. Measured Input reflected ripple current with a simulated source inductance of 12uH and a source capacitor C_{in} (47uF, ESR<1.0 Ω at 100KHz).
7. The Remote on/off control :
ON: open or high impedance
OFF: 3.0~6.0mA input current (via 1K)
8. Exceeding the absolute ratings of the unit could cause damage.
It's not allowed for continuous operating ratings.
9. 25% minimum loading is needed.
10. Input filter components are required to help meet conducted emission class A, which application refer to the EMI Filter of design & feature configuration.
11. An external filter capacitor is required if the module has to meet IEC61000-4-4 and IEC61000-4-5. The filter capacitor RSG suggest: Nippon - chemi - con KY series, 220uF/100V.



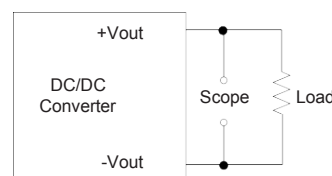
Input Reflected Ripple Current Test Step

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



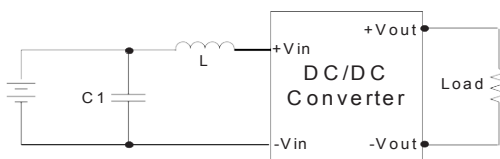
Output Ripple & Noise Measurement Test

The Scope measurement bandwidth is 20MHz.



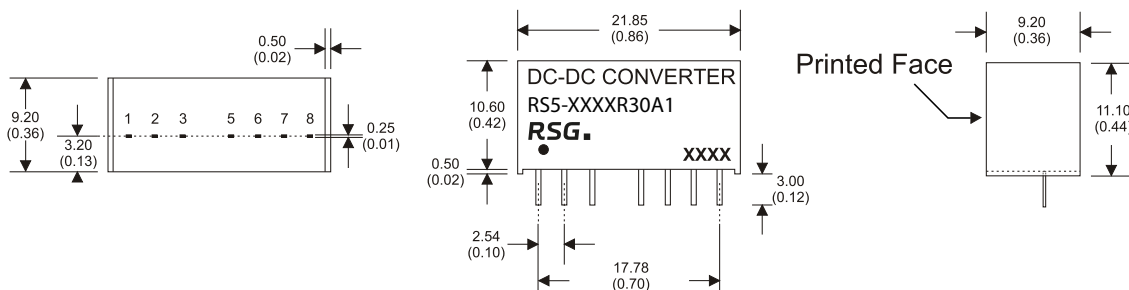
EMI Filter

Input filter components (C_1 , 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.

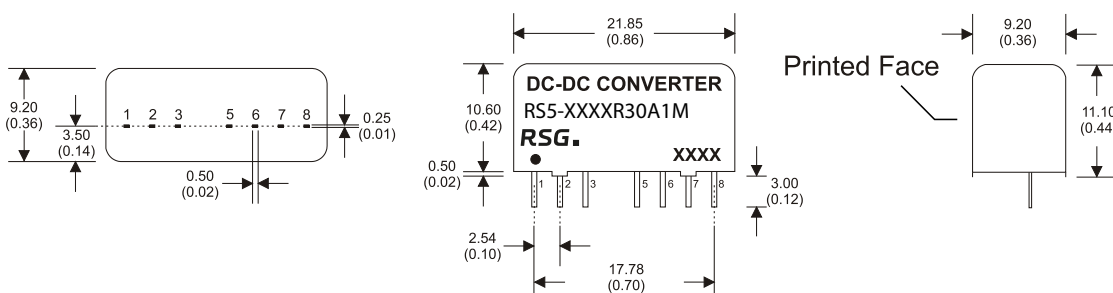


	C1	L
RS5-05xxR30/RD30A1	220uF/25V	5.6uH
RS5-12xxR30A1	100uF/100V	18uH
RS5-12xxRD30A1	1210, 2.2uF/100V	18uH
RS5-24xxR30/RD30A1	1210, 10uF/35V	18uH
RS5-48xxR30/RD30A1	100uF/100V	56uH

MECHANICAL SPECIFICATIONS



8 Pin SIL Package
Non-Conductive Plastic



8 Pin SIL Package
Nickel-Coated Copper

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
3	N.P.	N.C.
5	N.P.	N.C.
6	+V Output	+V Output
7	-V Output	Common
8	N.C.	-V Output

PIN CONNECTIONS		
PIN NUMBER	SINGLE+C	DUAL+C
1	-V Input	-V Input
2	+V Input	+V Input
3	Remote On/Off	Remote On/Off
5	N.C.	N.C.
6	+V Output	+V Output
7	-V Output	Common
8	N.C.	-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