

RS2/RD2-S05/D05

0.5 Watt unregulated
single & dual output



SIL 7 package, pic. similar

OUTPUT SPECIFICATIONS

Voltage accuracy	± 3%
Line regulation (Per 1% Vin Change)	± 1.2%
Load regulation (From 20% to 100% Load)	± 10%
(Output 3.3 V Model)	± 20%
Ripple & Noise (20 MHz bandwidth) (1)	75 mV pk-pk
Temperature coefficient	± 0.02%/°C
Capacitor load (2)	See table

INPUT SPECIFICATIONS

Voltage range	± 10%
Max. input current	See table
No-load input current	See table
Input filter	Capacitors
Input reflected ripple current (3)	20 mA pk-pk

GENERAL SPECIFICATIONS

Efficiency	See table
I/O isolation voltage (3 sec.)	
Input / output	1000 ~ 6000 VDC
I/O isolation capacitance	60 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	variable 80 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs.
Safety standard (designed to meet)	IEC 60950-1

PHYSICAL SPECIFICATIONS

Case material	Non-conductive black plastic (UL94V-0 rated)
Pin material	0.5 mm Alloy42 solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	SIP > 2.3 g, DIP > 2.6 g
Dimensions	SIP > 0.76" x 0.24" x 0.39" DIP > 0.80" x 0.40" x 0.27"

ENVIRONMENT SPECIFICATIONS

Operating temperature	-40°C~ 85°C (See derating curve)
Maximum case temperature	100°C
Storage temperature	-40°C~125°C
Cooling	Nature convection

- 7 Pin SIP7 / 14 Pin DIP14 package
- 1000 VDC isolation up to 6000 VDC isolation
- Low ripple and noise
- Efficiency up to 80%
- -40°C~85°C operation temperature range
- Non-conductive black plastic case

ABSOLUTE MAXIMUM RATINGS (4)

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

Input voltage (100 mS)	
5 modes	0 ~ 7 VDC
12 modes	0 ~ 15 VDC
24 modes	0 ~ 28 VDC
48 modes (SIP)	0 ~ 54 VDC

Lead soldering temperature 260°C
(1.5 mm from case 10 sec.)

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

The information and specifications contained in this data sheet are believed to be correct at time of publication. However, we accept no responsibility for consequences arising from printing errors or inaccuracies. Subject to change without notice.

NOTE

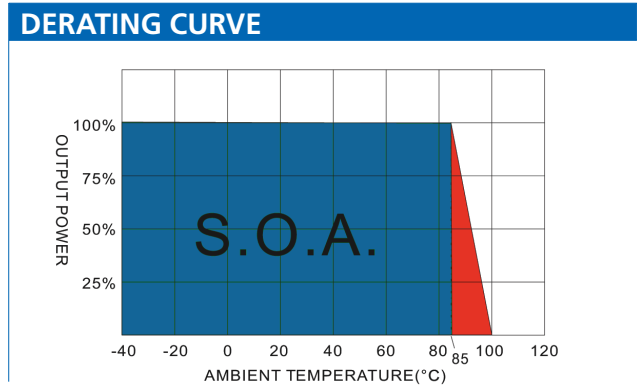
- 1) Ripple / Noise measured with 20 MHz bandwidth.
- 2) Tested by minimal Vin and constant resistive load.
- 3) Measured input reflected ripple current with a simulated source inductance of 12uH.
- 4) Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
- 5) Operation under no-load conditions will not damage these devices. However they may not meet all listed specifications.

The models listed are just for standard type. If you need a special specification product, please contact our service. Phone: +49 69 984047-0, mail to: info@rsg-electronic.de or use the forms on www.rsg-electronic.de („Kontakt“).

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NUMBER STRUCTURE							
RS2	-	XX	XX	S	05	A	X
Name/Package		Output		Type	Power	Code	Isolation
RS2=SIL7 RD2=DIL14		03=3.3V 05=5V 07=7.2V 09=9V 12=12V 15=15V 18=18V 24=24V		S=Single D=Dual	05=0.5W	internal	1=1.0 kVDC 2=2.0 kVDC 3=3.0 kVDC 4=4.0 kVDC 5=5.2 kVDC 6=6.0 kVDC
Input		Output		Type		Isolation	
05=5V 12=12V 24=24V 48=48V		03=3.3V 05=5V 07=7.2V 09=9V 12=12V 15=15V 18=18V 24=24V		S=Single D=Dual		1=1.0 kVDC 2=2.0 kVDC 3=3.0 kVDC 4=4.0 kVDC 5=5.2 kVDC 6=6.0 kVDC	



MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μF)
RS2-0503D05AX	5	30 / 166	±3.3	±75.7	60	±100
RS2-0505D05AX	5	30 / 135	±5	±50	74	±100
RS2-0507D05AX	5	30 / 129	±7.2	±34.7	77	±100
RS2-0509D05AX	5	30 / 128	±9	±27.7	78	±100
RS2-0512D05AX	5	30 / 128	±12	±20.8	78	±100
RS2-0515D05AX	5	30 / 128	±15	±16.7	78	±100
RS2-0518D05AX	5	30 / 126	±18	±13.9	79	±100
RS2-0524D05AX	5	30 / 126	±24	±10.4	79	±100
RS2-1203D05AX	12	20 / 69	±3.3	±75.7	60	±100
RS2-1205D05AX	12	20 / 56	±5	±50	74	±100
RS2-1207D05AX	12	20 / 54	±7.2	±34.7	77	±100
RS2-1209D05AX	12	20 / 53	±9	±27.7	78	±100
RS2-1212D05AX	12	20 / 53	±12	±20.8	78	±100
RS2-1215D05AX	12	20 / 53	±15	±16.7	78	±100
RS2-1218D05AX	12	20 / 52	±18	±13.9	80	±100
RS2-1224D05AX	12	20 / 52	±24	±10.4	80	±100
RS2-2403D05AX	24	10 / 35	±3.3	±75.7	60	±100
RS2-2405D05AX	24	10 / 28	±5	±50	74	±100
RS2-2407D05AX	24	10 / 27	±7.2	±34.7	76	±100
RS2-2409D05AX	24	10 / 27	±9	±27.7	76	±100
RS2-2412D05AX	24	10 / 26	±12	±20.8	78	±100
RS2-2415D05AX	24	10 / 26	±15	±16.7	78	±100
RS2-2418D05AX	24	10 / 26	±18	±13.9	78	±100
RS2-2424D05AX	24	10 / 26	±24	±10.4	80	±100
RS2-4803D05AX	48	6 / 17	±3.3	±75.7	60	±100
RS2-4805D05AX	48	6 / 14	±5	±50	74	±100
RS2-4807D05AX	48	6 / 13	±7.2	±34.7	76	±100
RS2-4809D05AX	48	6 / 13	±9	±27.7	76	±100
RS2-4812D05AX	48	6 / 13	±12	±20.8	76	±100
RS2-4815D05AX	48	6 / 13	±15	±16.7	77	±100
RS2-4818D05AX	48	6 / 13	±18	±13.9	77	±100
RS2-4824D05AX	48	6 / 13	±24	±10.4	79	±100

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RD2-0503D05AX	5	30 / 166	\pm 3.3	\pm 75.7	60	\pm 100
RD2-0505D05AX	5	30 / 135	\pm 5	\pm 50	74	\pm 100
RD2-0507D05AX	5	30 / 129	\pm 7.2	\pm 34.7	77	\pm 100
RD2-0509D05AX	5	30 / 128	\pm 9	\pm 27.7	78	\pm 100
RD2-0512D05AX	5	30 / 128	\pm 12	\pm 20.8	78	\pm 100
RD2-0515D05AX	5	30 / 128	\pm 15	\pm 16.7	78	\pm 100
RD2-0518D05AX	5	30 / 126	\pm 18	\pm 13.9	79	\pm 100
RD2-0524D05AX	5	30 / 126	\pm 24	\pm 10.4	79	\pm 100
RD2-1203D05AX	12	20 / 69	\pm 3.3	\pm 75.7	60	\pm 100
RD2-1205D05AX	12	20 / 56	\pm 5	\pm 50	74	\pm 100
RD2-1207D05AX	12	20 / 54	\pm 7.2	\pm 34.7	77	\pm 100
RD2-1209D05AX	12	20 / 53	\pm 9	\pm 27.7	78	\pm 100
RD2-1212D05AX	12	20 / 53	\pm 12	\pm 20.8	78	\pm 100
RD2-1215D05AX	12	20 / 53	\pm 15	\pm 16.7	78	\pm 100
RD2-1218D05AX	12	20 / 52	\pm 18	\pm 13.9	80	\pm 100
RD2-1224D05AX	12	20 / 52	\pm 24	\pm 10.4	80	\pm 100
RD2-2403D05AX	24	10 / 35	\pm 3.3	\pm 75.7	60	\pm 100
RD2-2405D05AX	24	10 / 28	\pm 5	\pm 50	74	\pm 100
RD2-2407D05AX	24	10 / 27	\pm 7.2	\pm 34.7	76	\pm 100
RD2-2409D05AX	24	10 / 27	\pm 9	\pm 27.7	76	\pm 100
RD2-2412D05AX	24	10 / 26	\pm 12	\pm 20.8	78	\pm 100
RD2-2415D05AX	24	10 / 26	\pm 15	\pm 16.7	78	\pm 100
RD2-2418D05AX	24	10 / 26	\pm 18	\pm 13.9	78	\pm 100
RD2-2424D05AX	24	10 / 26	\pm 24	\pm 10.4	80	\pm 100
RS2-0503S05AX	5	30 / 142	3.3	151.5	70	220
RS2-0505S05AX	5	30 / 135	5	100	74	220
RS2-0507S05AX	5	30 / 135	7.2	69.4	74	220
RS2-0509S05AX	5	30 / 133	9	55.5	75	220
RS2-0512S05AX	5	30 / 131	12	41.6	76	220
RS2-0515S05AX	5	30 / 131	15	33.3	76	220
RS2-0518S05AX	5	30 / 131	18	27.8	76	220
RS2-0524S05AX	5	30 / 128	24	20.8	78	220
RS2-1203S05AX	12	20 / 59	3.3	151.5	70	220
RS2-1205S05AX	12	20 / 57	5	100	73	220
RS2-1207S05AX	12	20 / 56	7.2	69.4	74	220
RS2-1209S05AX	12	20 / 55	9	55.5	75	220
RS2-1212S05AX	12	20 / 54	12	41.6	76	220
RS2-1215S05AX	12	20 / 54	15	33.3	76	220
RS2-1218S05AX	12	20 / 54	18	27.8	76	220
RS2-1224S05AX	12	20 / 53	24	20.8	78	220
RS2-2403S05AX	24	10 / 29	3.3	151.5	70	220
RS2-2405S05AX	24	10 / 28	5	100	73	220
RS2-2407S05AX	24	10 / 28	7.2	69.4	74	220
RS2-2409S05AX	24	10 / 28	9	55.5	75	220
RS2-2412S05AX	24	10 / 27	12	41.6	76	220
RS2-2415S05AX	24	10 / 26	15	33.3	78	220
RS2-2418S05AX	24	10 / 26	18	27.8	78	220
RS2-2424S05AX	24	10 / 26	24	20.8	78	220



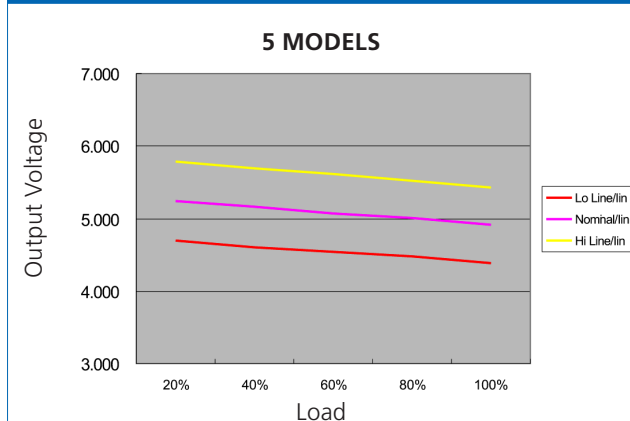
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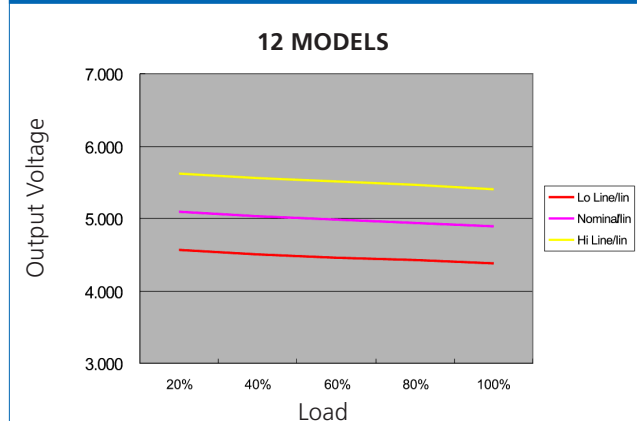
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RS2-4803S05AX	48	6 / 14	3.3	151.5	70	220
RS2-4805S05AX	48	6 / 14	5	100	72	220
RS2-4807S05AX	48	6 / 14	7.2	69.4	72	220
RS2-4809S05AX	48	6 / 14	9	55.5	74	220
RS2-4812S05AX	48	6 / 14	12	41.6	74	220
RS2-4815S05AX	48	6 / 13	15	33.3	75	220
RS2-4818S05AX	48	6 / 13	18	27.8	75	220
RS2-4824S05AX	48	6 / 13	24	20.8	77	220
RD2-0503S05AX	5	30 / 142	3.3	151.5	70	220
RD2-0505S05AX	5	30 / 135	5	100	74	220
RD2-0507S05AX	5	30 / 135	7.2	69.4	74	220
RD2-0509S05AX	5	30 / 133	9	55.5	75	220
RD2-0512S05AX	5	30 / 131	12	41.6	76	220
RD2-0515S05AX	5	30 / 131	15	33.3	76	220
RD2-0518S05AX	5	30 / 131	18	27.8	76	220
RD2-0524S05AX	5	30 / 128	24	20.8	78	220
RD2-1203S05AX	12	20 / 59	3.3	151.5	70	220
RD2-1205S05AX	12	20 / 57	5	100	73	220
RD2-1207S05AX	12	20 / 111	7.2	69.4	74	220
RD2-1209S05AX	12	20 / 55	9	55.5	75	220
RD2-1212S05AX	12	20 / 54	12	41.6	76	220
RD2-1215S05AX	12	20 / 54	15	33.3	76	220
RD2-1218S05AX	12	20 / 54	18	27.8	76	220
RD2-1224S05AX	12	20 / 53	24	20.8	78	220
RD2-2403S05AX	24	10 / 29	3.3	151.5	70	220
RD2-2405S05AX	24	10 / 28	5	100	73	220
RD2-2407S05AX	24	10 / 28	7.2	69.4	74	220
RD2-2409S05AX	24	10 / 28	9	55.5	75	220
RD2-2412S05AX	24	10 / 27	12	41.6	76	220
RD2-2415S05AX	24	10 / 26	15	33.3	78	220
RD2-2418S05AX	24	10 / 26	18	27.8	78	220
RD2-2424S05AX	24	10 / 26	24	20.8	78	220

LOADING VS OUTPUT VOLTAGE

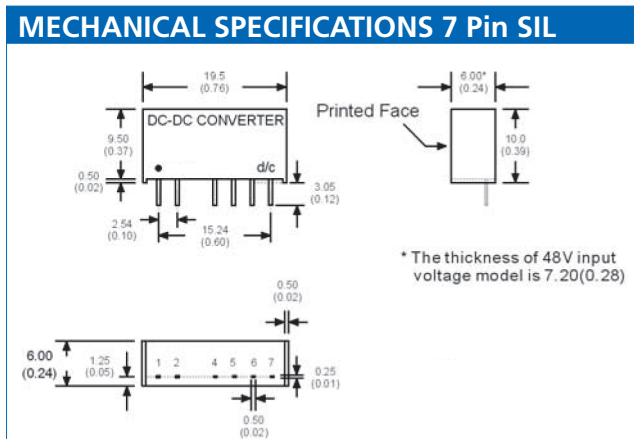
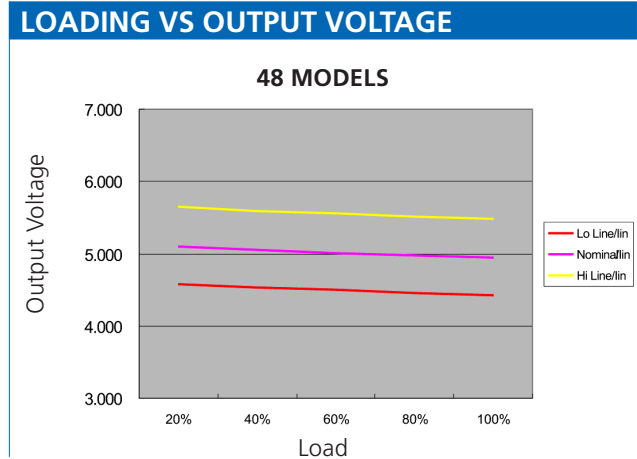
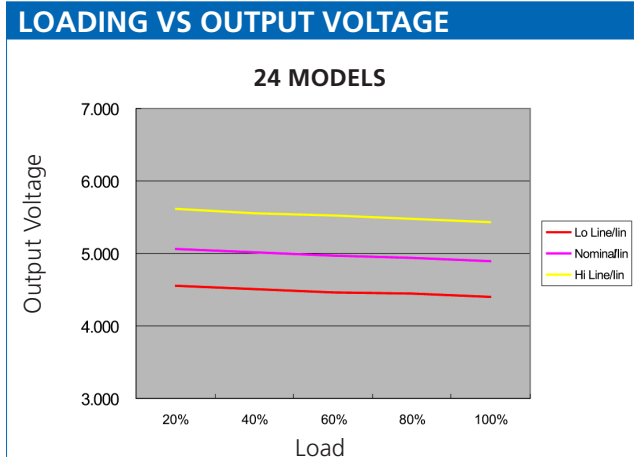


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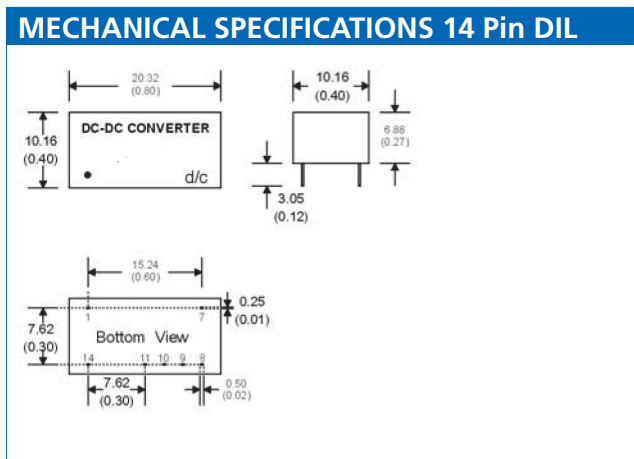
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PIN CONNECTIONS 7 Pin SIL

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



PIN CONNECTIONS 14 Pin DIL

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

Notes:
All dimensions are typical in millimeters (inches).
1) Pin diameter: 0.5 ± 0.05 (0.02 ± 0.002)
2) Pin pitch tolerance: ± 0.35 (± 0.014)
3) Case tolerance: ± 0.5 (± 0.02)