

# RS1/RD1-S15

1.5 Watt unregulated  
single output



- 4 Pin SIL / 8 Pin DIL package
- 1000 VDC isolation up to 3000 VDC isolation
- Low ripple and noise
- Efficiency up to 79%
- -40°C~85°C operation temperature range
- Non-conductive black plastic case

## OUTPUT SPECIFICATIONS

Voltage accuracy	± 3%
Line regulation (Per 1% Vin Charge)	± 1.2%
Load regulation (From 20% to 100% Load)	± 10%
(Output 3.3 V Model)	± 20%
Ripple & Noise (20 MHz bandwidth) (1)	100 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 ~ 3000 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	SIP case > 0.5 mm Alloy42 solder-coated DIP case > Ø 0.5 mm brass solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	SIP > 1.5 g, DIP > 1.8 g
Dimensions	SIP > 0.46" x 0.24" x 0.4" DIP > 0.50" x 0.40" x 0.27"

## ENVIRONMENT SPECIFICATIONS

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

## 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

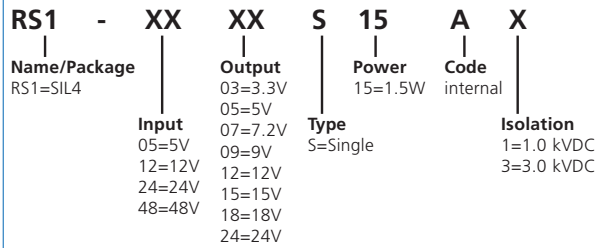
- 1) Ripple / Noise measured with 20 MHz bandwidth.
- 2) Tested by minimal Vin and constant resistive load.
- 3) Measured input reflected ripple current with a simulated source inductance of 12uH.
- 4) Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
- 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“).*

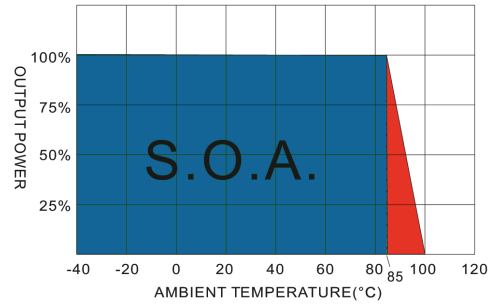
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## NUMBER STRUCTURE



## DERATING CURVE



## MODEL SELECTION GUIDE

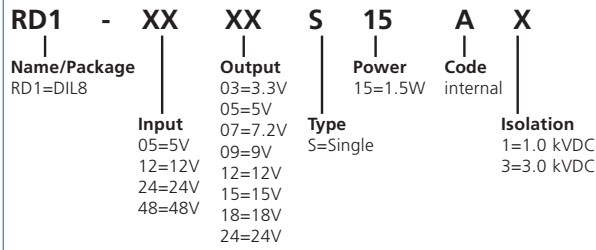
Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μF)
RS1-0503S15AX	5	30 / 361	3.3	400	73	220
RS1-0505S15AX	5	30 / 400	5	300	75	220
RS1-0507S15AX	5	30 / 400	7.2	208	75	220
RS1-0509S15AX	5	30 / 400	9	167	75	220
RS1-0512S15AX	5	30 / 384	12	125	78	220
RS1-0515S15AX	5	30 / 384	15	100	78	220
RS1-0518S15AX	5	30 / 384	18	83	78	220
RS1-0524S15AX	5	30 / 379	24	62.5	79	220
RS1-1203S15AX	12	15 / 148	3.3	400	74	220
RS1-1205S15AX	12	15 / 168	5	300	74	220
RS1-1207S15AX	12	15 / 166	7.2	208	75	220
RS1-1209S15AX	12	15 / 166	9	167	75	220
RS1-1212S15AX	12	15 / 166	12	125	75	220
RS1-1215S15AX	12	15 / 162	15	100	77	220
RS1-1218S15AX	12	15 / 162	18	83	77	220
RS1-1224S15AX	12	15 / 162	24	62.5	77	220
RS1-2403S15AX	24	10 / 73	3.3	400	75	220
RS1-2405S15AX	24	10 / 83	5	300	75	220
RS1-2407S15AX	24	10 / 83	7.2	208	75	220
RS1-2409S15AX	24	10 / 83	9	167	75	220
RS1-2412S15AX	24	10 / 82	12	125	76	220
RS1-2415S15AX	24	10 / 82	15	100	76	220
RS1-2418S15AX	24	10 / 82	18	83	76	220
RS1-2424S15AX	24	10 / 79	24	62.5	79	220
RS1-4803S15AX	48	6 / 36	3.3	400	75	220
RS1-4805S15AX	48	6 / 41	5	300	76	220
RS1-4807S15AX	48	6 / 41	7.2	208	76	220
RS1-4809S15AX	48	6 / 41	9	167	76	220
RS1-4812S15AX	48	6 / 40	12	125	77	220
RS1-4815S15AX	48	6 / 40	15	100	77	220
RS1-4818S15AX	48	6 / 40	18	83	77	220
RS1-4824S15AX	48	6 / 40	24	62.5	78	220



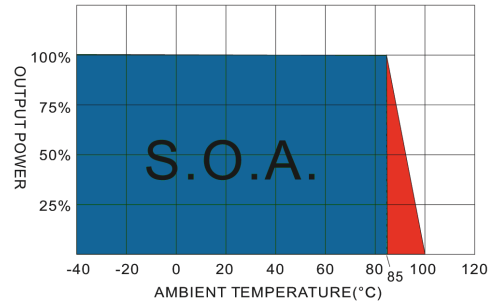
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## NUMBER STRUCTURE



## DERATING CURVE



## MODEL SELECTION GUIDE

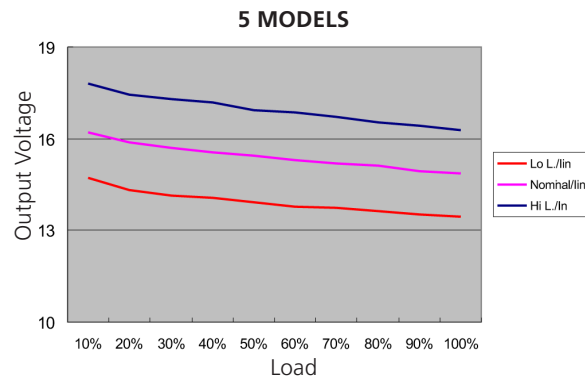
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RD1-2415S15AX	24	10 / 82	15	100	76	220
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RD1-2424S15AX	24	10 / 79	24	62.5	79	220



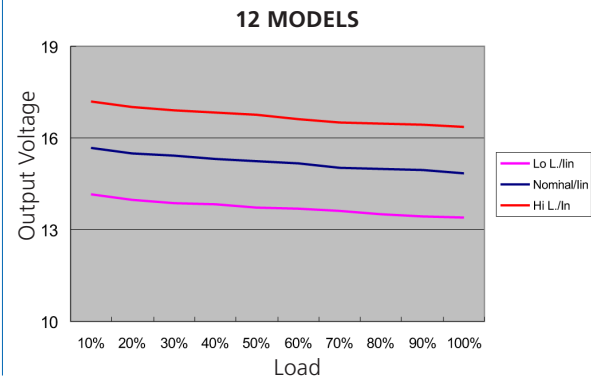
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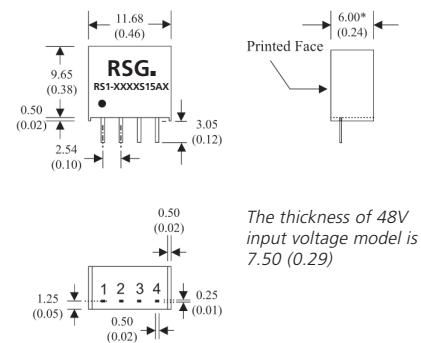
## LOADING VS OUTPUT VOLTAGE 5



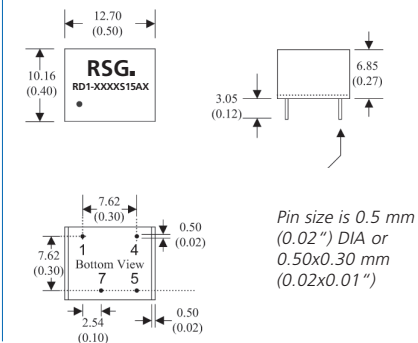
## LOADING VS OUTPUT VOLTAGE 12



## MECHANICAL SPECIFICATIONS 4 Pin SIL



## MECHANICAL SPECIFICATIONS 8 Pin DIL



## PIN CONNECTIONS

Pin Number	Single 4 Pin SIL	Single 8 Pin DIL
1	-V Input	-V Input
2	+V Input	
3	-V Output	
4	+V Output	+V Input
5		+V Output
7		-V Output

### Notes:

All dimensions are typical in millimeters (inches).

- 1) Pin diameter:  $0.5 \pm 0.05$  ( $0.02 \pm 0.002$ )
- 2) Pin pitch tolerance:  $\pm 0.35$  ( $\pm 0.014$ )
- 3) Case tolerance:  $\pm 0.5$  ( $\pm 0.02$ )