

# RD1-D10

1.0 Watt unregulated  
dual output



- 8 Pin DIP8 package
- 1000 VDC isolation up to 3000 VDC isolation
- Low ripple and noise
- Efficiency up to 80%
- -40°C~85°C operation temperature range
- Non-conductive black plastic case
- EMI complies with EN55022 class B

## 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

## EMC SPECIFICATIONS

Radiated emissions	EN55022	Class B
	FCC 47 CFR	
	Part 15 Subpart B	Class B
ESD	IEC 61000-4-2	Perf. criteria B
RS	IEC 61000-4-3	Perf. criteria A

## PHYSICAL SPECIFICATIONS

Case material	Non-conductive black plastic (UL94V-0 rated)
Pin material	Ø 0.5 mm br. solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	1.8 g
Dimensions	0.50" 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

## 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

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

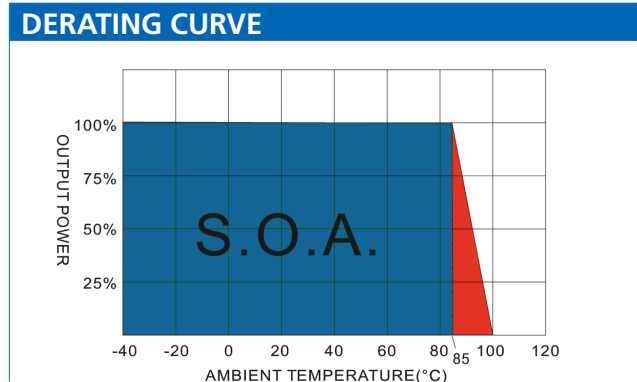
- 1) Ripple / Noise measured with 20 MHz bandwidth.
- 2) Tested by minimal Vin and constant resistive load.
- 3) Measured input reflected ripple current with a simulated source inductance of 12uH.
- 4) Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
- 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							
<b>RD1</b>	<b>-</b>	<b>XX</b>	<b>XX</b>	<b>D</b>	<b>10</b>	<b>A</b>	<b>X</b>
<b>Name/Package</b> RD1=DIL8		<b>Output</b> 03=3.3V 05=5V 07=7.2V 09=9V 12=12V 15=15V 18=18V 24=24V	<b>Input</b> 05=5V 12=12V 24=24V	<b>Type</b> S=Single D=Dual	<b>Power</b> 02=0.25W 05=0.50W 07=0.75W 10=1.00W 15=1.50W 20=2.00W 30=3.00W	<b>Code</b> internal	<b>Isolation</b> 0=0.5 kVDC 1=1.0 kVDC 2=2.0 kVDC 3=3.0 kVDC 4=4.0 kVDC 5=5.0 kVDC 6=6.0 kVDC



## MODEL SELECTION GUIDE

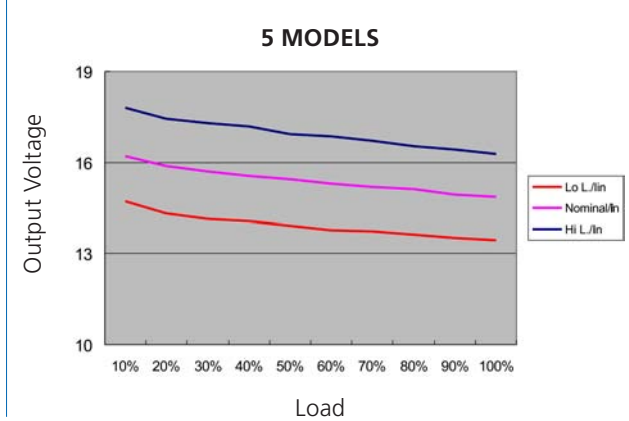
Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μF)
RD1-0503D10AX	5	30 / 285	±3.3	±152	70	±100
RD1-0505D10AX	5	30 / 277	±5	±100	72	±100
RD1-0507D10AX	5	30 / 277	±7.2	±69	72	±100
RD1-0509D10AX	5	30 / 263	±9	±56	76	±100
RD1-0512D10AX	5	30 / 300	±12	±50	80	±100
RD1-0515D10AX	5	30 / 263	±15	±33	76	±100
RD1-0518D10AX	5	30 / 263	±18	±28	76	±100
RD1-0524D10AX	5	30 / 300	±24	±25	80	±100
RD1-1203D10AX	12	15 / 119	±3.3	±152	70	±100
RD1-1205D10AX	12	15 / 115	±5	±100	72	±100
RD1-1207D10AX	12	15 / 115	±7.2	±69	72	±100
RD1-1209D10AX	12	15 / 109	±9	±56	76	±100
RD1-1212D10AX	12	15 / 125	±12	±50	80	±100
RD1-1215D10AX	12	15 / 109	±15	±33	76	±100
RD1-1218D10AX	12	15 / 109	±18	±28	76	±100
RD1-1224D10AX	12	25 / 128	±24	±25	78	±100
RD1-2403D10AX	24	10 / 58	±3.3	±152	71	±100
RD1-2405D10AX	24	10 / 57	±5	±100	73	±100
RD1-2407D10AX	24	10 / 57	±7.2	±69	73	±100
RD1-2409D10AX	24	10 / 55	±9	±56	75	±100
RD1-2412D10AX	24	10 / 62	±12	±50	80	±100
RD1-2415D10AX	24	10 / 54	±15	±33	77	±100
RD1-2418D10AX	24	10 / 54	±18	±28	77	±100
RD1-2424D10AX	24	10 / 62	±24	±25	80	±100



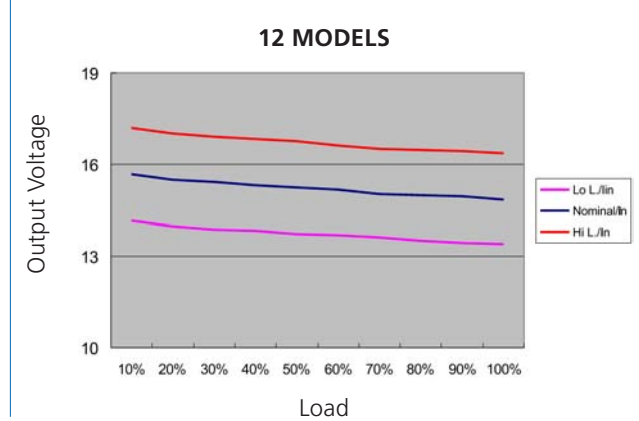
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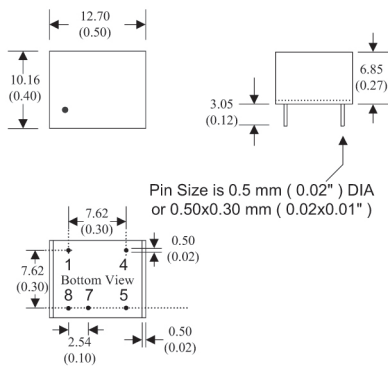
## LOADING VS OUTPUT VOLTAGE



## LOADING VS OUTPUT VOLTAGE



## MECHANICAL SPECIFICATIONS 8 Pin DIL



## PIN CONNECTIONS 8 Pin DIL

Pin Number	Dual 8 Pin DIL
1	-V Input
4	+V Input
5	+V Output
7	Common
8	-V Output

The Pin connections of high isolation models are the same as normal ones.

### 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:  $\pm 0.5$  ( $\pm 0.02$ )