RD1-D10

- 8Pin DIL Package
- 1000VDC Isolation
- Up to 3000VDC Isolation
- Low Ripple and Noise
- Efficiency up to 85%
- Operating Temperature Range: -40° ~ +85°C
- Non Conductive Black Plastic Case
- EMI Complies with EN55022 Class B

CE

OUTPUT SPECIFICATION	
Voltage accuracy:	±3%
Line regulation:	±1.2% (per 1%Vin Change)
LOAD REGULATION:	±10% (from 20 to 100%) Load
	Output 3.3V Model: ±20%
Ripple noise (20Mhz bandwidth):	100mV pk-pk
Temperature coefficient:	±0.02% °C
Capacitor load:	see table

INPUT SPECIFICATIONS	
Voltage Range:	±10%
Max. Input Current:	see table
No-Load/Full-Load Input Current:	see table
Input Filter:	Capacitors
Input Reflected Ripple Current :	20mA pk-pk

GENERAL SPECIFICATIONS	
Efficiency:	See table
I/O Isolation Voltage (60sec):	1000 ~ 3000VDC
I/O Isolation Capacitance:	60pF typ.
I/O Isolation Resistance:	1000M Ohm
Switching Frequency:	Variable 80kHz
Humidity:	95% rel H
Reliability Calculated MTBF : (MIL-HDBK-217 f)	>1.121MHrs
Safety Standard: (designed to meet):	IEC 60950-1

ENVIRONMENTAL SPECIFICATION	
Operating Temperature range:	-40°C ~+85°C (see Derating Curve)
Maximum Case Temperature:	100°C
Storage Temperature :	-40°C ~+125°C
Cooling :	Nature Convection

PHYSICAL SPECIFICATIONS:	
Case Material:	Non-conductive Black Plastic (UL94V-0 rated)
PIN Material DIP Case:	Ø 0.5mm Brass Solder-coated
Potting Material:	Epoxy (UL94V-0 rated)
Weight Case-DIP:	1.8g
Dimmension DIP:	0.50 x 0.40 x 0.27“

ABSOLUTE MAXIMUM RATINGS	
Input Surge Voltage (100ms)/	
3.3V Models:	5VDC max
5 V Models:	7VDC max
12V Models:	15VDC max
15V Models:	18VDC max
24V Models:	28VDC max
Soldering Temperature(1):	260°C max.

EMC SPECIFICATIONS (2)	
Radiated-/Conducted Emissions:	EN55022 Class B
ESD:	IEC 61000-4-2 Perf.Criteria A
RS:	IEC 61000-4-3 Perf.Criteria A
EFT:	IEC 61000-4-4 Perf.Criteria A
SURGE:	IEC 61000-4-5 Perf.Criteria A
CS:	IEC 61000-4-6 Perf.Criteria A
PFMF	IEC 61000-4-8 Perf.Criteria A

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.

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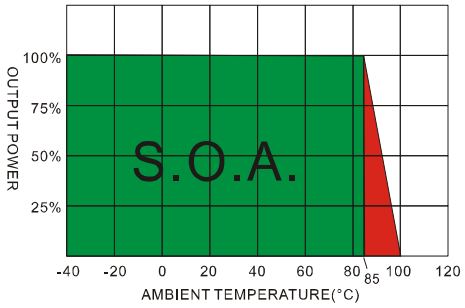
NUMBER STRUCTURE

RD1 - XX XX D 10 A X

- **Name/Package**: RD1=DIL8
- **Input**: 03=3.3V, 05=5.0V, 12=12V, 15=15V, 24=24V
- **Output**: 03=3.3V, 05=5.0V, 07=7.2V, 09=9.0V, 12=12V, 15=15V, 18=18V, 24=24V
- **Type**: D=Dual
- **Power (W)**: 10=1.00
- **Code**: internal
- **Isolation (kVDC)**: 1= 1.0, 3= 3.0

Derating Curve



MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current No-Load (mA)	INPUT Current Full Load (mA)	OUTPUT Voltage (Vdc)	OUTPUT Current Full load (mA)	EFFICIENCY @FL(%)	Capacitor Load(uF)
RD1-0303D10AX	3.3	30	489	±3.3	±152	62	±100
RD1-0305D10AX	3.3	35	481	±5	±100	63	±100
RD1-0307D10AX	3.3	30	481	±7.2	±69	63	±100
RD1-0309D10AX	3.3	30	466	±9	±56	65	±100
RD1-0312D10AX	3.3	32	543	±12	±50	67	±100
RD1-0315D10AX	3.3	32	452	±15	±33	67	±100
RD1-0318D10AX	3.3	32	439	±18	±28	69	±100
RD1-0324D10AX	3.3	32	439	±24	±25	69	±100
RD1-0503D10AX	5	15	299	±3.3	±152	67	±100
RD1-0505D10AX	5	20	270	±5	±100	74	±100
RD1-0507D10AX	5	15	260	±7.2	±69	77	±100
RD1-0509D10AX	5	20	260	±9	±56	77	±100
RD1-0512D10AX	5	22	300	±12	±50	80	±100
RD1-0515D10AX	5	20	247	±15	±33	81	±100
RD1-0518D10AX	5	22	244	±18	±28	82	±100
RD1-0524D10AX	5	20	300	±24	±25	85	±100
RD1-1203D10AX	12	10	121	±3.3	±152	69	±100
RD1-1205D10AX	12	7	110	±5	±100	76	±100
RD1-1207D10AX	12	15	109	±7.2	±69	76	±100
RD1-1209D10AX	12	15	109	±9	±56	78	±100
RD1-1212D10AX	12	12	123	±12	±50	81	±100
RD1-1215D10AX	12	10	102	±15	±33	82	±100
RD1-1218D10AX	12	15	103	±18	±28	81	±100
RD1-1224D10AX	12	20	125	±24	±25	80	±100
RD1-1503D10AX	15	10	93	±3.3	±152	72	±100
RD1-1505D10AX	15	10	89	±5	±100	75	±100
RD1-1507D10AX	15	15	89	±7.2	±69	75	±100
RD1-1509D10AX	15	15	87	±9	±56	77	±100
RD1-1512D10AX	15	5	103	±12	±50	78	±100
RD1-1515D10AX	15	5	80	±15	±33	83	±100
RD1-1518D10AX	15	10	85	±18	±28	78	±100
RD1-1524D10AX	15	10	103	±24	±25	78	±100
RD1-2403D10AX	24	5	60	±3.3	±152	70	±100
RD1-2405D10AX	24	6	56	±5	±100	74	±100
RD1-2407D10AX	24	6	55	±7.2	±69	76	±100
RD1-2409D10AX	24	7	56	±9	±56	75	±100
RD1-2412D10AX	24	5	62	±12	±50	81	±100
RD1-2415D10AX	24	5	51	±15	±33	81	±100
RD1-2418D10AX	24	7	53	±18	±28	78	±100
RD1-2424D10AX	24	7	64	±24	±25	78	±100

RoHS

Suffix „3" means 3kVdc Isolation Voltage

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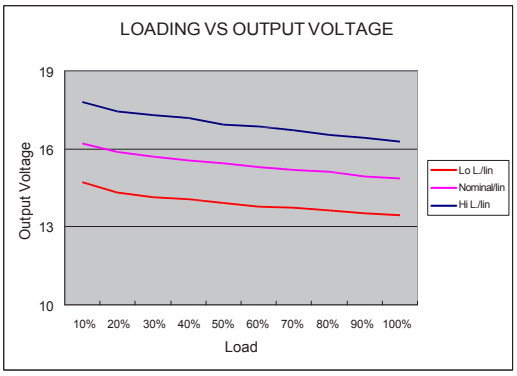
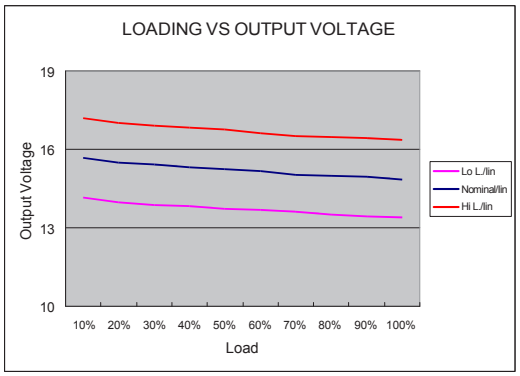
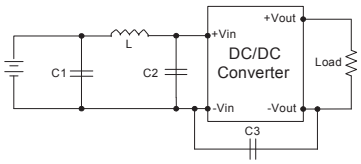


5 Models

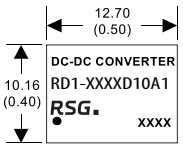


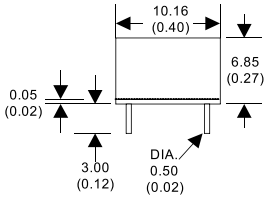
12 Models

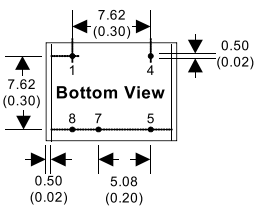
1. Ripple/Noise measured with 20MHz bandwidth.
2. Tested by minimal Vin and constant resistive load.
3. Measured Input reflected ripple current with a simulated source inductance of 12uH.
4. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
5. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
6. Input filter components are be required to help meet conducted emission class B, which application refer to the EMI Filter of design & feature configuration.
7. 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, 470uF/100V.



	C1	L	C2	C3
RD1-03XXD10AX	1210, 2.2uF/100V	18uH		
RD1-05XXD10AX	1210, 2.2uF/100V	18uH		
RD1-12XXD10AX	1210, 2.2uF/100V	18uH		
RD1-15XXD10AX	1210, 2.2uF/100V	18uH		
RD1-24XXD10AX	1210, 2.2uF/100V	18uH	1210, 2.2uF/100V	1206, 470pF/2KV
RD1-48XXD10AX	Electrolytic capacitor, 10uF/100V	18uH	1210, 2.2uF/100V	1206, 470pF/2KV







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)

PIN CONNECTIONS	
PIN NUMBER	Dual
1	−V Input
4	+V Input
5	+V Output
7	Common
8	−V Output

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

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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