RR7-S02/D02

- 24 Pin DIL Package
- Wide 4:1 Input Range
- 1500VDC Isolation
- Up to 3500VDC Isolation
- Continuous Short Circuit Protection
- Efficiency up to 78%
- Operating Temperature Range -40° ~ +85°C
- Metal Case Standard , Optional Plastic Case
- EMI Complies With EN55022 Class A

RoHS

OUTPUT SPECIFICATION	
Voltage accuracy:	±1%
Line regulation:	Single &Dual ±0.5% max.
LOAD REGULATION:	±0.5%
	Output 3.3V Model: ±1.5%
Short Circuit Protection :	Indefinite (Automatic Recovery)
Ripple noise (20Mhz bandwidth):	60mV pk-pk
Temperature coefficient:	±0.02%<>°C
Capacitor load:	See table

INPUT SPECIFICATIONS	
Voltage Range:	See table
Max. Input Current:	See table
No-Load/Full-Load Input Current:	See table
Input Filter:	PI Type
Input Reflected Ripple Current :	35mA pk-pk

GENERAL SPECIFICATIONS	
Efficiency:	See table typ.
I/O Isolation Voltage Metal Case (3 sec.):	1000VDC
I/O Isolation Voltage (3 sec.):	1500 ~ 3500VDC
I/O Isolation Capacitance:	500pF typ.
I/O Isolation Resistance:	1000M Ohm
Switching Frequency:	266kHz, typ.
Humidity:	95% rel H
Reliability Calculated MTBF : (MIL-HDBK-217 f)	> 1.21MHrs
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:	
Base Material:	Nickel-coated Copper
	Non-conductive Black Plastic (UL94V-0 rated)
PIN Material:	Ø 0.5mm Brass Solder coated
Potting Material:	Epoxy (UL94V-0 rated)
Weight Case-DIP:	17.0g (Metal), 13.5g (plastic)
Dimmension DIP:	1.25“ x 0.8“ x 0.4“

ABSOLUTE MAXIMUM RATINGS (1)	
Input Surge Voltage (100ms)/	
24V Models:	40VDC max.
48V Models:	80VDC max.
Soldering Temperature:	260°C max. (2)

EMC SPECIFICATIONS	
Radiated-/Conducted Emissions:	EN55022 Class A
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

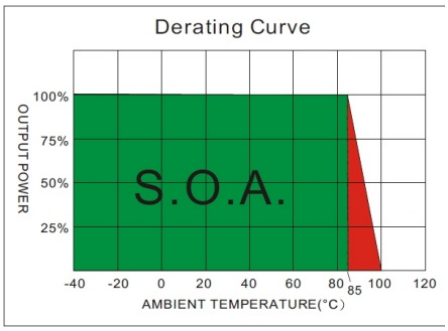
1) These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.
2) (1.5mm from case 10sec Max.)
3) All specifications typical at TA= 25°C, nominal input voltage and full load unless otherwise specified.
4) The information and specification contained 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.

STAND Juni 2016 Rev 01

RR7-S02/D02

NUMBER STRUCTURE

RR7 -	XX	XX	S/D	XX	A	X	X
Name/Package	Input	Output	Type	Power (W)	Code	Isolation (kVDC)	
RR7=DIL24	24= 9-36V 48=18-72 V	03=3.3V 05=5.0V 07=7.2V 09=9.0V 12=12V 15=15V 18=18V 24=24V	S= Single-Outp. D= Dual-Outp. .	02=2.00 03=3.00 04=4.00 05=5.00 06=6.00	internal	1= 1.5 3= 3.5	P = Plastic Case Standard =Metal



MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current No-Load (mA)	INPUT Current Full Load (mA)	OUTPUT Voltage (Vdc)	OUTPUT Current Min. load (mA)	OUTPUT Current Full load (mA)	EFFICIENCY @FL(%)	Capacitor Load(uF)
RR7-2403S02AX	9-36	15	110.0	3.3	0	600	75	470
RR7-2405S02AX	9-36	15	109.6	5	0	400	76	330
RR7-2407S02AX	9-36	15	106.8	7.2	0	277	78	68
RR7-2409S02AX	9-36	15	106.8	9	0	222	78	68
RR7-2412S02AX	9-36	15	106.8	12	0	166	78	47
RR7-2415S02AX	9-36	15	106.8	15	0	133	78	22
RR7-2418S02AX	9-36	15	106.8	18	0	111	78	22
RR7-2424S02AX	9-36	15	106.8	24	0	83	78	10
RR7-2403D02AX	9-36	15	110.0	±3.3	0	±303	75	±220
RR7-2405D02AX	9-36	15	109.6	±5	0	±200	76	±100
RR7-2407D02AX	9-36	15	106.8	±7.2	0	±138	78	±33
RR7-2409D02AX	9-36	15	106.8	±9	0	±111	78	±33
RR7-2412D02AX	9-36	15	106.8	±12	0	±83	78	±22
RR7-2415D02AX	9-36	15	106.8	±15	0	±66	78	±10
RR7-2418D02AX	9-36	15	106.8	±18	0	±55	78	±10
RR7-2424D02AX	9-36	15	106.8	±24	0	±41	78	±10
RR7-4803S02AX	18-72	12	55.0	3.3	0	600	75	470
RR7-4805S02AX	18-72	12	54.82	5	0	400	76	330
RR7-4807S02AX	18-72	12	53.4	7.2	0	277	78	68
RR7-4809S02AX	18-72	12	53.4	9	0	222	78	68
RR7-4812S02AX	18-72	12	53.4	12	0	166	78	47
RR7-4815S02AX	18-72	12	53.4	15	0	133	78	22
RR7-4818S02AX	18-72	12	53.4	18	0	111	78	22
RR7-4824S02AX	18-72	12	53.4	24	0	83	78	10
RR7-4803D02AX	18-72	12	55.5	±3.3	0	±303	75	±220
RR7-4805D02AX	18-72	12	54.82	±5	0	±200	76	±100
RR7-4807D02AX	18-72	12	53.4	±7.2	0	±138	78	±33
RR7-4809D02AX	18-72	12	53.4	±9	0	±111	78	±33
RR7-4812D02AX	18-72	12	53.4	±12	0	±83	78	±22
RR7-4815D02AX	18-72	12	53.4	±15	0	±66	78	±10
RR7-4818D02AX	18-72	12	53.4	±18	0	±55	78	±10
RR7-4824D02AX	18-72	12	53.4	±24	0	±41	78	±10

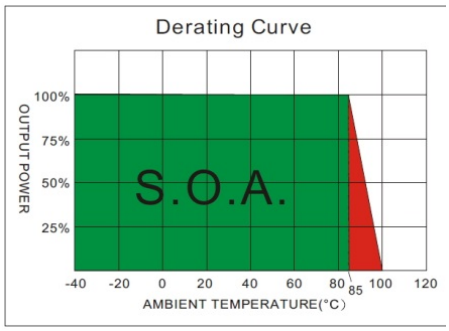
Suffix “3” means 3.5KVdc isolation
Suffix “P” means Plastic case instead of standard Metal Case

STAND Juni 2016 Rev 01

RR7-S02/D02

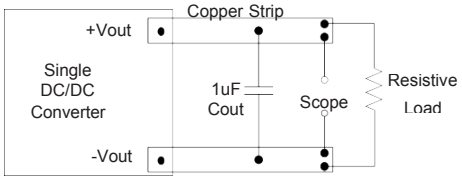
NUMBER STRUCTURE

RR7	-	XX	XX	S/D	XX	A	X	X
Name/Package RR7=DIL24		Input 24= 9-36V 48=18-72 V	Output 03=3.3V 05=5.0V 07=7.2V 09=9.0V 12=12V 15=15V 18=18V 24=24V	Type S= Single-Outp. D= Dual-Outp. .	Power (W) 02=2.00 03=3.00 04=4.00 05=5.00 06=6.00	Code internal	Isolation (kVDC) 1= 1.5 3= 3.5	P = Plastic Case Standard =Metal



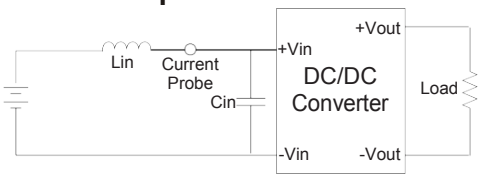
Output Ripple & Noise Measurement Test

Use a capacitor Cout(1.0uF) measurement.
The Scope measurement bandwidth is 0-20MHz.



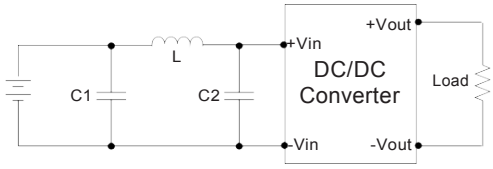
Input Reflected Ripple Current Test Step

Input reflected ripple current is measured through a source inductor Lin(12uH) and a source capacitor Cin(47uF, ESR<1.0© at 100KHz) at nominal input and full load.

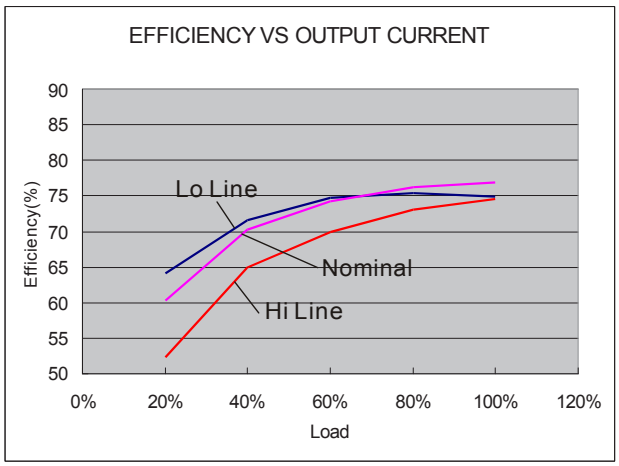


EMI Filter

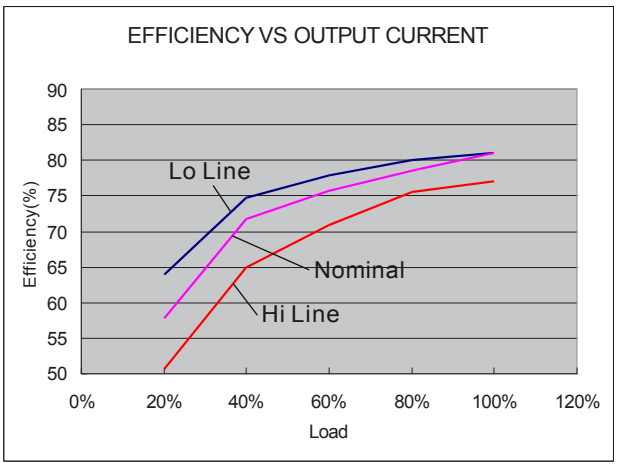
Input filter components (C1,C2, L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.



C1	L	C2
68uF, 100V	12uH	33uF, 100V



24 Models

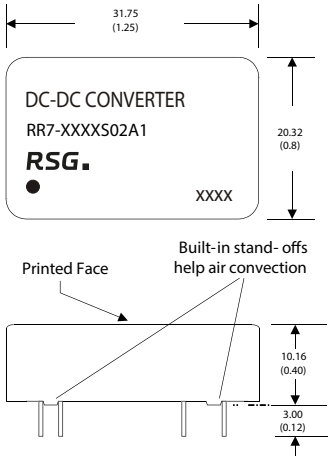


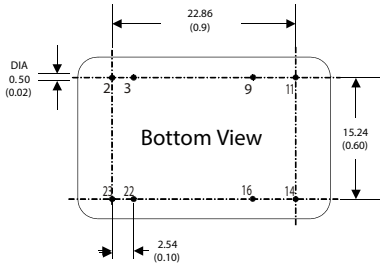
48 Models

STAND Juni 2016 Rev 01

RR7-S02/D02

MECHANICAL SPECIFICATIONS





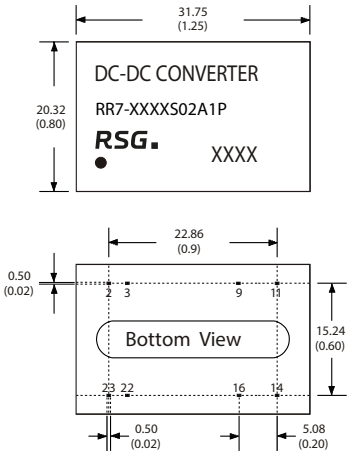
24 Pin DIL Package

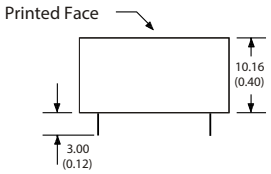
Nickel-Coated Copper

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	SINGLE	DUAL
2	−V Input	−V Input
3	−V Input	−V Input
9	N.P.	Common
11	N.C.	−V Output
14	+V Output	+V Output
16	−V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

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





For “P” Case

24 Pin DIL Package

Non-Conductive Plastic

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	SINGLE	DUAL
2	−V Input	−V Input
3	−V Input	−V Input
9	N.P.	Common
11	N.C.	−V Output
14	+V Output	+V Output
16	−V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

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

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

STAND Juni 2016 Rev 01