RR3-S02/D02

2 Watt 2:1 regulated single & dual output

RSG ELECTRONIC COMPONENTS

- DIP24, wide 2:1 input range
- Full SMD technology
- 1500 VDC isolation up to 3500 VDC isolation
- Continuous short circuit protection
- Efficiency up to 78%
- -40°C~85°C operation temperature range
- Optional plastic case

OUTPUT SPECIFICATIONS

Voltage accuracy	± 1%
Line regulation	± 0.5%
Load regulation	± 0.5%
(Output 3.3V Model / ±3.3V Model)	± 1.5%
Ripple & Noise (20 MHz bandwith) (1)	60 mV pk-pk
Short circuit protection	Indefinite (automatic recovery)
Temperature coefficient	± 0.02%/°C
Capacitor load (2)	See table

INPUT SPECIFICATIONS

Voltage range	See table
Max. input current	See table
No-load input current	See table
Input filter	PI Type
Input reflected ripple current (3)	35 mA pk-pk

GENERAL SPECIFICATIONS

Efficiency (typ.)	See table
I/O isolation voltage (3 sec.) Input/Output	1500~3500 VDC
Metal case / Input & Output	1000 VDC
I/O isolation capacitance	470 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	typ. 266 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs.
Safety standard (designed to meet)	IEC 60950-1:2001

PHYSICAL SPECIFICATIONS

Case material	Nickel-coated copper Non-conductive black plastic (UL94V-0 rated)
Base material	Non-conductive black plastic (UL94V-0 rated)
Pin material	Ø 0.5 mm brass solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	Metal 17.0 g, Plastic 13.5 g
Dimensions	1.25" x 0.8" x 0.4"

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)		
	12 modes	-0.7 ~ 24 VDC
	24 modes	-0.7 ~ 40 VDC
	48 modes	-0.7 ~ 80 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) Typical value at nominal input voltage and full load.
2) Tested by nominal Vin and constant resistor 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.

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").

RR3-S02/D02

2 Watt 2:1 regulated
single & dual output

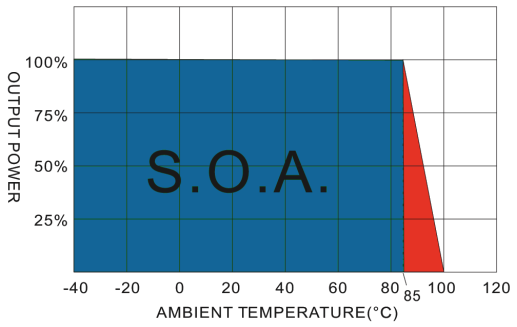
NUMBER STRUCTURE

RR3 - XX XX S/D 02 A X (P)*

- **Name/Package**: RR3=DIL24
- **Input**: 12=9~18V, 24=18~36V, 48=36~72V
- **Output**: 03=3.3V, 05=5V, 09=9V, 12=12V, 15=15V, 24=24V
- **Type**: S=Single, D=Dual
- **Power**: 02=2W
- **Code**: internal
- **Isolation**: 1=1.5kVDC, 3=3.5kVDC

Add suffix **P** at the end for Plastic Case!

DERATING CURVE



MODEL SELECTION GUIDE

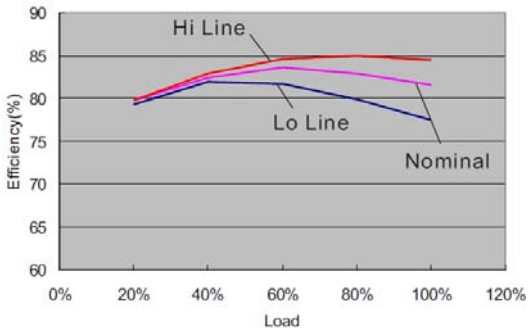
Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (µF)
RR3-1203S02AX	9-18	30 / 223	3.3	600	74	680
RR3-1205S02AX	9-18	30 / 222	5	400	75	680
RR3-1209S02AX	9-18	30 / 219	9	222	76	330
RR3-1212S02AX	9-18	30 / 219	12	167	76	220
RR3-1215S02AX	9-18	30 / 219	15	133	76	100
RR3-1224S02AX	9-18	30 / 219	24	83	76	33
RR3-1203D02AX	9-18	30 / 229	±3.3	±300	72	±330
RR3-1205D02AX	9-18	30 / 219	±5	±200	75	±330
RR3-1209D02AX	9-18	30 / 219	±9	±111	76	±100
RR3-1212D02AX	9-18	30 / 219	±12	±83	76	±47
RR3-1215D02AX	9-18	30 / 219	±15	±67	76	±33
RR3-1224D02AX	9-18	30 / 219	±24	±42	76	±22
RR3-2403S02AX	18-36	20 / 109	3.3	600	76	680
RR3-2405S02AX	18-36	20 / 107	5	400	78	680
RR3-2409S02AX	18-36	20 / 107	9	222	78	330
RR3-2412S02AX	18-36	20 / 107	12	167	78	220
RR3-2415S02AX	18-36	20 / 107	15	133	78	100
RR3-2424S02AX	18-36	20 / 107	24	83	78	33
RR3-2403D02AX	18-36	20 / 112	±3.3	±300	74	±330
RR3-2405D02AX	18-36	20 / 109	±5	±200	76	±330
RR3-2409D02AX	18-36	20 / 107	±9	±111	78	±100
RR3-2412D02AX	18-36	20 / 107	±12	±83	78	±47
RR3-2415D02AX	18-36	20 / 107	±15	±67	78	±33
RR3-2424D02AX	18-36	20 / 107	±24	±42	78	±22
RR3-4803S02AX	36-72	12 / 56	3.3	600	74	680
RR3-4805S02AX	36-72	12 / 56	5	400	75	680
RR3-4809S02AX	36-72	12 / 56	9	222	75	330
RR3-4812S02AX	36-72	12 / 56	12	167	75	220
RR3-4815S02AX	36-72	12 / 56	15	133	75	100
RR3-4824S02AX	36-72	12 / 56	24	83	75	33
RR3-4803D02AX	36-72	12 / 56	±3.3	±300	74	±330
RR3-4805D02AX	36-72	12 / 56	±5	±200	75	±330
RR3-4809D02AX	36-72	12 / 56	±9	±111	75	±100
RR3-4812D02AX	36-72	12 / 56	±12	±83	75	±47
RR3-4815D02AX	36-72	12 / 56	±15	±67	75	±33
RR3-4824D02AX	36-72	12 / 56	±24	±42	75	±22

RR3-S02/D02

2 Watt 2:1 regulated
single & dual output

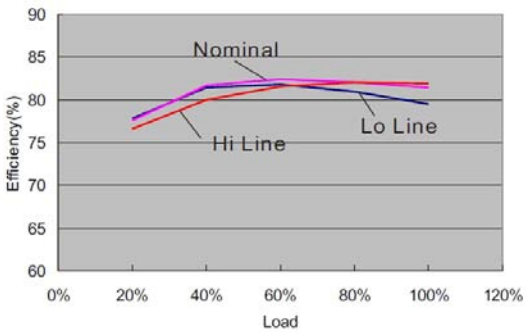
EFFICIENCY VS OUTPUT CURRENT 12

12 MODELS



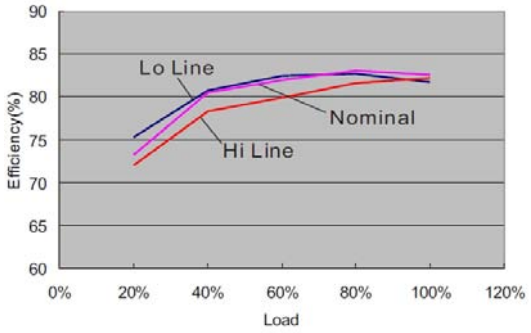
EFFICIENCY VS OUTPUT CURRENT 24

24 MODELS



EFFICIENCY VS OUTPUT CURRENT 48

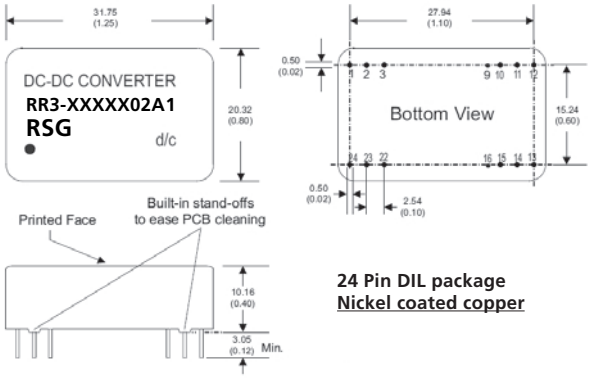
48 MODELS



PIN CONNECTIONS

PIN Nr.	SINGLE	DUAL	SINGLE-3	DUAL-3
1	+V Input	+V Input	N.P.	N.P.
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	N.P.	N.P.	N.P.	Common
10	-V Output	Common	N.P.	N.P.
11	+V Output	+V Output	N.C.	-V Output
12	-V Input	-V Input	N.P.	N.P.
13	-V Input	-V Input	N.P.	N.P.
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	N.P.	N.P.
16	N.P.	N.P.	-V Output	Common
22	N.C.	Common	+V Input	+V Input
23	N.C.	-V Output	+V Input	+V Input
24	+V Input	+V Input	N.P.	N.P.

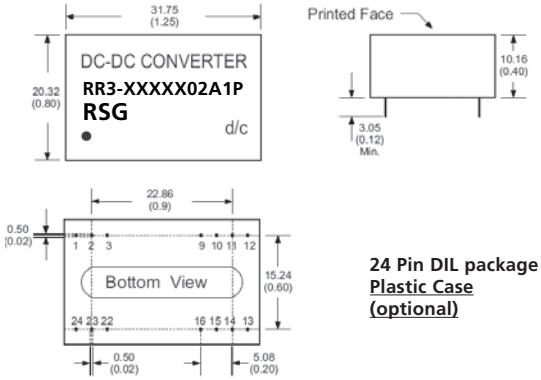
MECHANICAL SPECIFICATIONS



24 Pin DIL package
Nickel coated copper

All dimensions are typical in millimeters (inches).
1) Pin diameter: 1.0 ± 0.05 (0.02 ± 0.002)
2) Pin pitch tolerance: ± 0.35 (± 0.014)
3) Case tolerance: ± 0.5 (± 0.02)

MECHANICAL SPECIFICATIONS



24 Pin DIL package
Plastic Case
(optional)

All dimensions are typical in millimeters (inches).
1) Pin diameter: 1.0 ± 0.05 (0.02 ± 0.002)
2) Pin pitch tolerance: ± 0.35 (± 0.014)
3) Case tolerance: ± 0.5 (± 0.02)

RSG ELECTRONIC COMPONENTS

RSG Electronic Components GmbH
Sprendlinger Landstr. 115
D-63069 Offenbach

Tel. +49 69 984047-0
Fax +49 69 984047-77

mail: info@rsg-electronic.de
www.rsg-electronic.de