

# RR7-S05/D05

5 Watt 4:1 regulated  
single & dual output



RR-series, DIL 24 package, pic. similar

## OUTPUT SPECIFICATIONS

Voltage accuracy	± 1%
Line regulation	± 0.5%
Load regulation	± 0.5%
(Output 3.3V / ±3.3V Model)	± 1.5%
Ripple & Noise (20 MHz bandwidth) (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	500 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

- DIP24, wide 4:1 input range
- Full SMD technology
- 1500 VDC isolation up to 3500 VDC isolation
- Continuous short circuit protection
- Efficiency up to 82%
- -40°C~85°C operation temperature range
- Optional Plastic case
- EMI complies with EN55022 Class A

## EMC SPECIFICATIONS

Radiated Emissions	EN55022	Class A
Conducted Emissions (4)	EN55022	Class A
ESD	IEC61000-4-2	Perf. crit. B
RS	IEC61000-4-3	Perf. crit. A
EFT	IEC61000-4-4	Perf. crit. B
CS	IEC61000-4-6	Perf. crit. A
PFMF	IEC61000-4-8	Perf. crit. A

## ABSOLUTE MAXIMUM RATINGS (4)

These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.

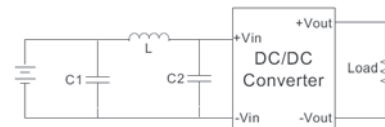
Input voltage (100 ms)	
24 modes	-0.7 ~ 40 VDC
48 modes	-0.7 ~ 80 VDC
Lead soldering temperature	260°C
(1.5 mm from case 10 sec.)	

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.
- 5) It's recommended to add C1 (68 F), C2 (33 F), L (12 H) in input end to achieve EN55022 conducted Class A.



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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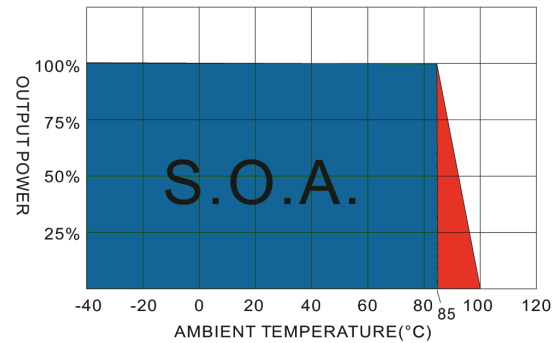
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## NUMBER STRUCTURE

<b>RR7</b>	-	<b>XX</b>	<b>XX</b>	<b>S</b>	<b>05</b>	<b>A</b>	<b>1 (P)*</b>
<b>Name/Package</b> RR7=DIL24		<b>Input</b> 24=9~36V 48=18~72V	<b>Output</b> 03=3.3V 05=5V 07=7.2V 09=9V 12=12V 15=15V 18=18V 24=24V	<b>Type</b> S=Single D=Dual	<b>Power</b> 05=5W	<b>Code</b> internal	<b>Isolation</b> 1=1.5 kVDC 3=3.5 kVDC

\* Standard version in Metal case. Add suffix „P“ for Plastic case!

## DERATING CURVE



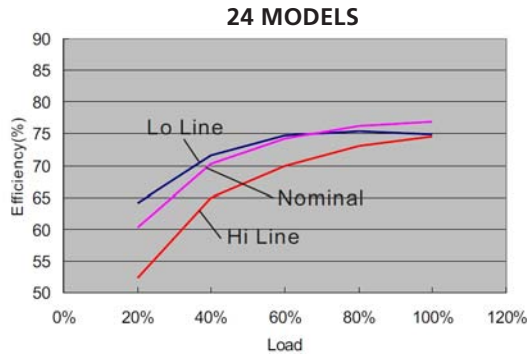
## MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μF)
RR7-2403S05AX	9-36	18 / 238.3	3.3	1300	75	1000
RR7-2405S05AX	9-36	18 / 260.4	5	1000	80	680
RR7-2407S05AX	9-36	18 / 260.4	7.2	694	80	470
RR7-2409S05AX	9-36	18 / 257.2	9	555	81	220
RR7-2412S05AX	9-36	18 / 257.2	12	416	81	100
RR7-2415S05AX	9-36	18 / 254.1	15	333	82	100
RR7-2418S05AX	9-36	18 / 260.4	18	277	80	68
RR7-2424S05AX	9-36	18 / 260.4	24	208	80	47
RR7-2403D05AX	9-36	18 / 281.5	±3.3	±757	74	±470
RR7-2405D05AX	9-36	18 / 260.4	±5	±500	80	±330
RR7-2407D05AX	9-36	18 / 260.4	±7.2	±347	80	±100
RR7-2409D05AX	9-36	18 / 257.2	±9	±277	81	±68
RR7-2412D05AX	9-36	18 / 257.2	±12	±208	81	±47
RR7-2415D05AX	9-36	18 / 254.1	±15	±166	82	±47
RR7-2418D05AX	9-36	18 / 260.4	±18	±138	80	±22
RR7-2424D05AX	9-36	18 / 260.4	±24	±104	80	±22
RR7-4803S05AX	18-72	15 / 119.2	3.3	1300	75	1000
RR7-4805S05AX	18-72	15 / 130.2	5	1000	80	680
RR7-4807S05AX	18-72	15 / 130.2	7.2	694	80	470
RR7-4809S05AX	18-72	15 / 128.6	9	555	81	220
RR7-4812S05AX	18-72	15 / 128.6	12	416	81	100
RR7-4815S05AX	18-72	15 / 127	15	333	82	100
RR7-4818S05AX	18-72	15 / 130.2	18	277	80	68
RR7-4824S05AX	18-72	15 / 130.2	24	208	80	47
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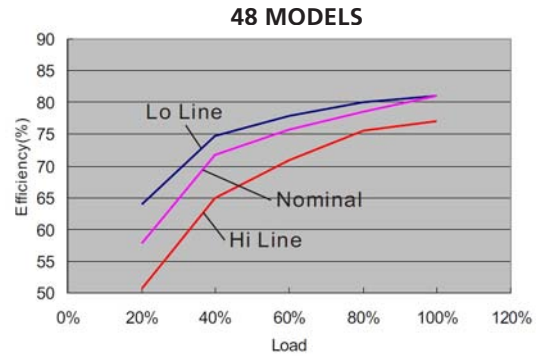
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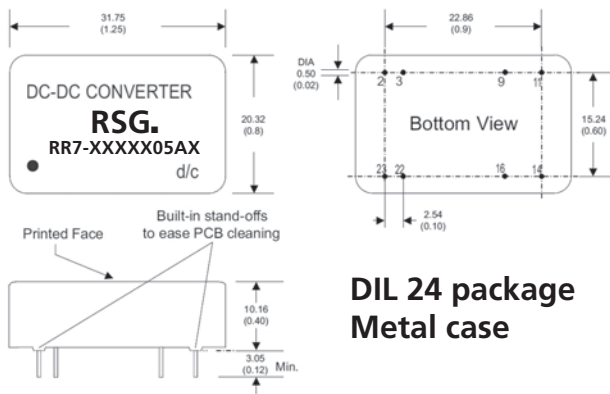
## EFFICIENCY VS OUTPUT CURRENT 24



## EFFICIENCY VS OUTPUT CURRENT 48

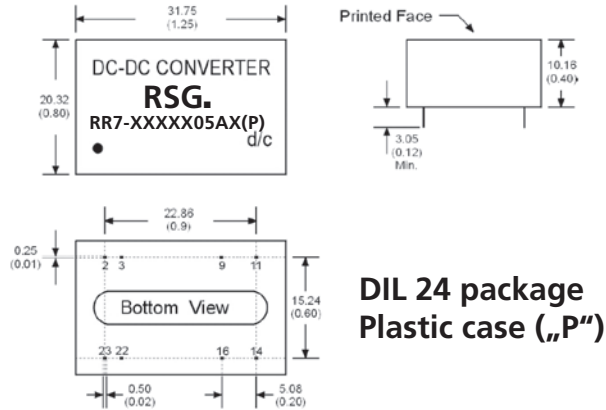


## MECHANICAL SPECIFICATIONS



**DIL 24 package  
Metal case**

## MECHANICAL SPECIFICATIONS



**DIL 24 package  
Plastic case („P”)**

## 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

### Notes:

- All dimensions are typical in mm (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:  $\pm 0.5$  ( $\pm 0.02$ )

*The Pin connections for High Isolation models are the same as normal ones!*