

# RR5-S05/D05

5.0 Watt 4:1 regulated  
single & dual output



RR-series, DIL 24 package, metal version, pic. similar

## OUTPUT SPECIFICATIONS

Voltage accuracy	± 1%
Line regulation	± 0.5%
Load regulation	± 0.5%
Ripple & Noise (20 MHz bandwidth) (1)	60 mV pk-pk
Short circuit protection	Continuous
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	See table, typ.
I/O isolation voltage (3 sec.) Input/output	1500~3500 VDC
Metal case / input & output	1000 VDC
I/O isolation capacitance	60 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	100~400 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 2.199 Mhrs.
Safety standard (designed to meet)	IEC 60950-1:2001

## PHYSICAL SPECIFICATIONS

Case material	Non-conductive black plastic (UL94V-0 rated) Nickel-coated copper
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 15 g, plastic 12.5g
Dimensions	1.25" x 0.8" x 0.4"

## ENVIRONMENT SPECIFICATIONS

Operating temperature (See derating curve)	-25°C~ 85°C -25°C~ 71°C (For 100% load)
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 81%
- -25°C~85°C operation temperature range
- Optional metal case

## 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  $T_a = 25^\circ\text{C}$ , 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  $V_{in}$  and constant resistive load.
- 3) Measured input reflected ripple current with a simulated source inductance of 12µH.
- 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) It's necessary to add minimum capacitor in output for some single models. Please contact the service team for detail value.

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“).

# RR5-S05/D05

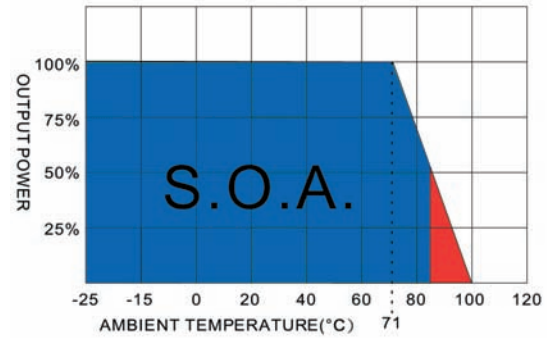
5.0 Watt 4:1 regulated  
single & dual output

## NUMBER STRUCTURE

<b>RR5 - XX</b>	<b>XX</b>	<b>S</b>	<b>05</b>	<b>A</b>	<b>1 (M-J/P/K)*</b>
<b>Name/Package</b> RR5=DIL24	<b>Output</b> 03=3.3V 05=5V	<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
<b>Input</b> 24=9~36V 48=18~72V	<b>Input</b> 12=12V 15=15V				

\* Standard version in plastic case. Add suffix „M“ for metal case!  
Please see Pinout-versions page 3 and add suffix „J“, „P“ or „K“!

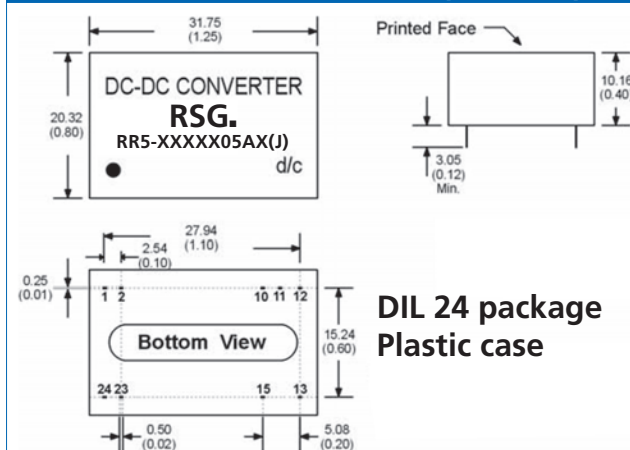
## DERATING CURVE



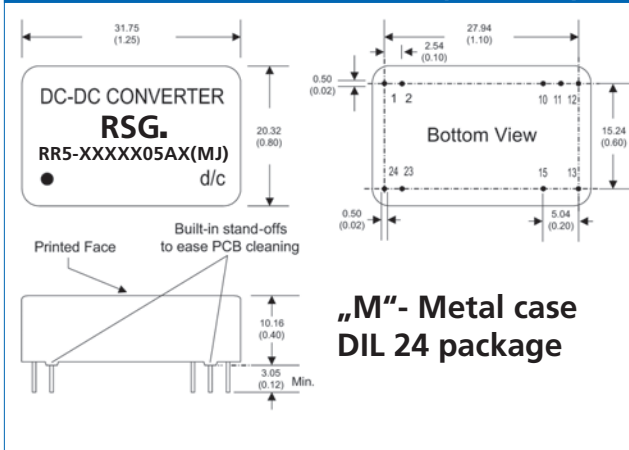
## MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current No Load / Full Load (mA)	Output Voltage VDC	Output current Min. Load / Full Load (mA)	Efficiency @FL (%)	Capacitor Load (µF)
RR5-2403S05AX	9-36	20 / 236	3.3	300 / 1200	70	2200
RR5-2405S05AX	9-36	20 / 278	5	250 / 1000	75	1000
RR5-2412S05AX	9-36	20 / 258	12	105 / 416	81	470
RR5-2415S05AX	9-36	20 / 260	15	84 / 333	80	330
RR5-2405D05AX	9-36	20 / 278	±5	±125 / ±500	75	±470
RR5-2412D05AX	9-36	20 / 260	±12	±53 / ±208	80	±100
RR5-2415D05AX	9-36	20 / 263	±15	±42 / ±166	79	±68
RR5-4803S05AX	18-72	15 / 121	3.3	300 / 1200	68	2200
RR5-4805S05AX	18-72	15 / 141	5	250 / 1000	74	1000
RR5-4812S05AX	18-72	15 / 136	12	105 / 416	77	470
RR5-4815S05AX	18-72	15 / 136	15	84 / 333	77	330
RR5-4805D05AX	18-72	15 / 145	±5	±125 / ±500	72	±470
RR5-4812D05AX	18-72	15 / 138	±12	±53 / ±208	76	±100
RR5-4815D05AX	18-72	15 / 138	±15	±42 / ±166	76	±68

## MECHANICAL SPECIFICATIONS (J-Models)



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## PIN CONNECTIONS (J-Models)

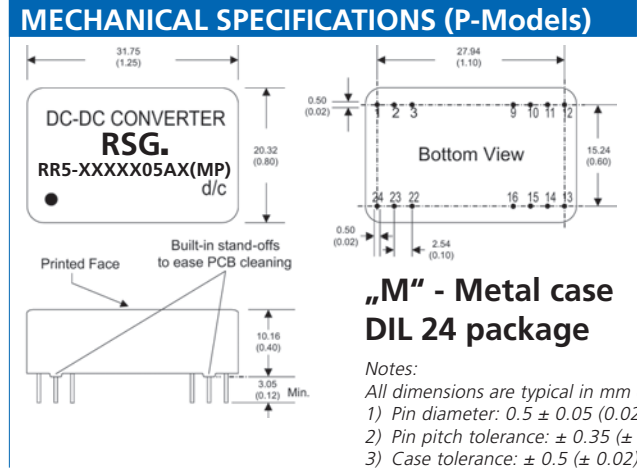
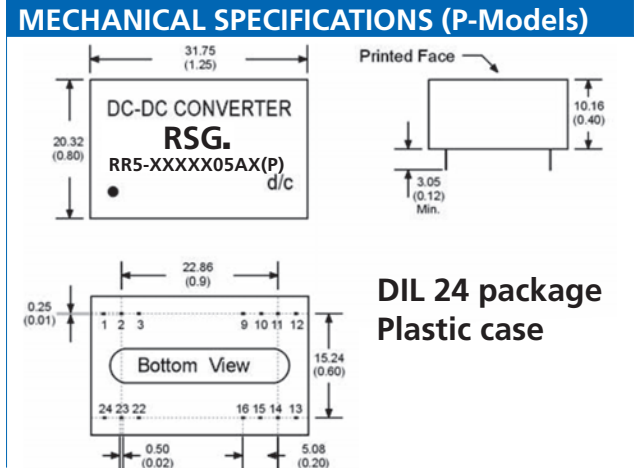
Pin Number	Single	Dual
1	+V Input	+V Input
2	+V Input	+V Input
10	N.C.	Common
11	N.C.	Common
12	-V Output	N.C.
13	+V Output	-V Output
15	N.C.	+V Output
23	-V Input	-V Input
24	-V Input	-V Input

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

**The Pin connections for High Isolation „J“-Models are the same as for normal ones!**

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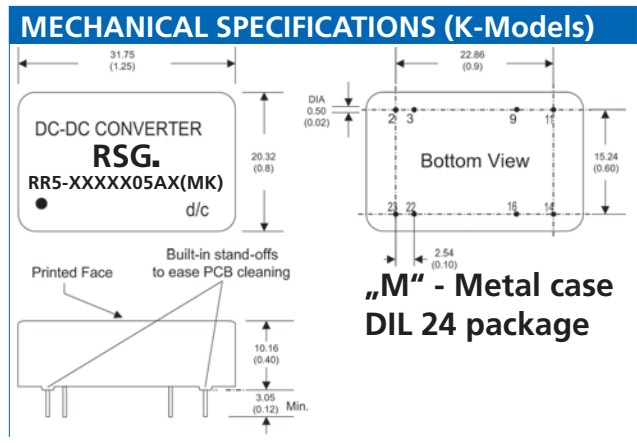
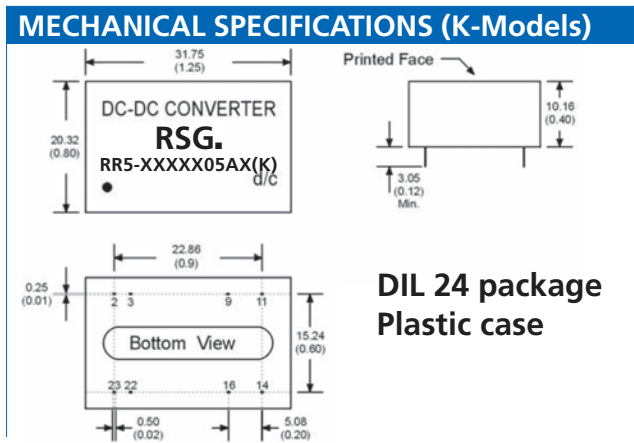


### PIN CONNECTIONS (P-Models)

Pin Number	Single	Dual
1	+V Input	+V Input
2	N.C.	-V Output
3	N.C.	Common
9	N.P.	N.P.
10	-V Output	Common
11	+V Output	+V Output
12	-V Input	-V Input
13	-V Input	-V Input
14	+V Output	+V Output
15	-V Output	Common
16	N.P.	N.P.
22	N.C.	Common
23	N.C.	-V Output
24	+V Input	+V Input

### PIN CONNECTIONS (P-Models High Isolation)

Pin Number	Single	Dual
1	N.P.	N.P.
2	-V Input	-V Input
3	-V Input	-V Input
9	N.C.	Common
10	N.P.	N.P.
11	N.C.	-V Output
12	N.P.	N.P.
13	N.P.	N.P.
14	+V Output	+V Output
15	N.P.	N.P.
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input
24	N.P.	N.P.



### PIN CONNECTIONS (K-Models)

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 connections for High Isolation „K“-Models are the same as for normal ones!*