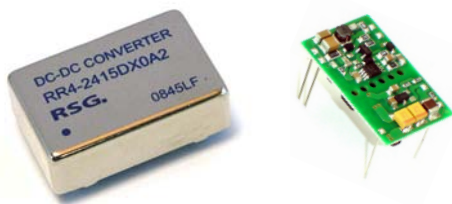


RR4-S08/D08

8 Watt 2:1 regulated
single & dual output



- DIP24, wide 2:1 input range
- Full SMD technology
- 1500 VDC isolation
- Continuous short circuit protection
- Efficiency up to 85%
- -40°C~85°C operation temperature range
- High power density: 8W in DIL-24 package

OUTPUT SPECIFICATIONS

Voltage accuracy	± 1%
Line regulation	± 0.5%
Load regulation (From 10% to 100% Load)	± 0.5%
(Output 3.3 V Model)	± 0.7%
Cross regulation (dual output) (1)	± 5.0%
Over current protection (of FL typ.)	150%
Ripple & Noise (20 MHz bandwidth) (2)	75 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	See table
I/O isolation voltage (3 sec.)	
Input / output	1500 VDC
Metal case / input & output	1000 VDC
I/O isolation capacitance	1000 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	typ. 330 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 0.91 Mhrs.
Safety standard (designed to meet)	IEC 60950

EMC CHARACTERISTICS

Radiated Emissions	EN55022	Class A
Conducted Emissions (7)	EN55022	Class A
ESD	EN61000-4-2	Perf. crit. B
RS	EN61000-4-3	Perf. crit. A
EFT (8)	EN61000-4-4	Perf. crit. B
Surge (8)	EN61000-4-5	Perf. crit. B
CS	EN61000-4-6	Perf. crit. A
PFMF	EN61000-4-8	Perf. crit. A

PHYSICAL SPECIFICATIONS

Case material	Nickel-coated copper
Pin material	Ø 0.5 mm brass solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	17 g
Dimensions	1.25" x 0.8" x 0.4"

ENVIRONMENT SPECIFICATIONS

Operating temperature	-40°C ~ 85°C
(See derating curve)	-40°C ~ 60°C (for 100% load)
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 ~ 100 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.

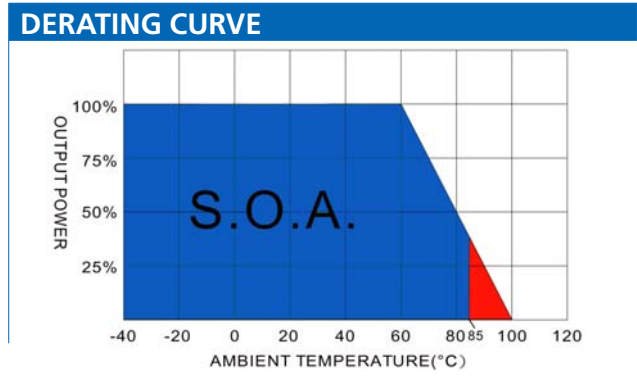
The information and specifications contained in this data sheet are believed to be correct at time of publication. However, we accept no responsibility for consequences arising from printing errors or inaccuracies. Subject to change without notice.

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“).

RR4-S08/D08

8 Watt 2:1 regulated
single & dual output

NUMBER STRUCTURE						
RR4	-	XX	XX	S	08	A 1
Name/Package RR4=DIL24		Input 12=9~18V 24=18~36V 48=36~72V	Output 03=3.3V 05=5V 12=12V 15=15V	Type S=Single D=Dual	Power 08=8W	Code internal Isolation 1=1.5 kVDC



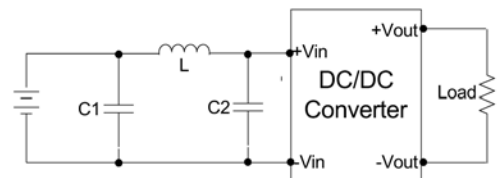
MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μF)
RR4-1203S08A1	9-18	20 / 687	3.3	2000	80	3300
RR4-1205S08A1	9-18	20 / 762	5	1500	82	2200
RR4-1212S08A1	9-18	20 / 784	12	665	85	470
RR4-1215S08A1	9-18	20 / 803	15	535	83	220
RR4-1205D08A1	9-18	20 / 813	±5	±800	82	±1000
RR4-1212D08A1	9-18	20 / 794	±12	±335	84	±220
RR4-1215D08A1	9-18	20 / 794	±15	±265	84	±100
RR4-2403S08A1	18-36	15 / 344	3.3	2000	80	3300
RR4-2405S08A1	18-36	15 / 381	5	1500	82	2200
RR4-2412S08A1	18-36	15 / 392	12	665	85	470
RR4-2415S08A1	18-36	15 / 397	15	535	84	220
RR4-2405D08A1	18-36	15 / 407	±5	±800	82	±1000
RR4-2412D08A1	18-36	15 / 402	±12	±335	83	±220
RR4-2415D08A1	18-36	15 / 392	±15	±265	85	±100
RR4-4803S08A1	36-72	15 / 172	3.3	2000	80	3300
RR4-4805S08A1	36-72	15 / 191	5	1500	82	2200
RR4-4812S08A1	36-72	15 / 198	12	665	84	470
RR4-4815S08A1	36-72	15 / 198	15	535	84	220
RR4-4805D08A1	36-72	15 / 203	±5	±800	82	±1000
RR4-4812D08A1	36-72	15 / 196	±12	±335	85	±220
RR4-4815D08A1	36-72	15 / 196	±15	±265	85	±100

NOTE

- 1) One load is 25% to 100%, the other load is 100%. The output voltage variable rate is within ±5%.
- 2) Typical value at nominal input voltage and full load.
- 3) Tested by nominal Vin and constant resistive load.
- 4) Measured input reflected ripple current with a simulated source inductance of 12uH.
- 5) Operation under no-load or under 10% conditions will not damage these devices. However they may not meet all listed specifications.
- 6) For some models it's necessary to add a minimum capacitor at the output. Please check single model datasheet for detail value.
- 7) Input filter components (C1, C2, L) are used to help meeting the conducted emissions requirements 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.
- 8) An external filter capacitor is required if the module has to meet EN61000-4-4 and EN61000-4-5.

9) Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.

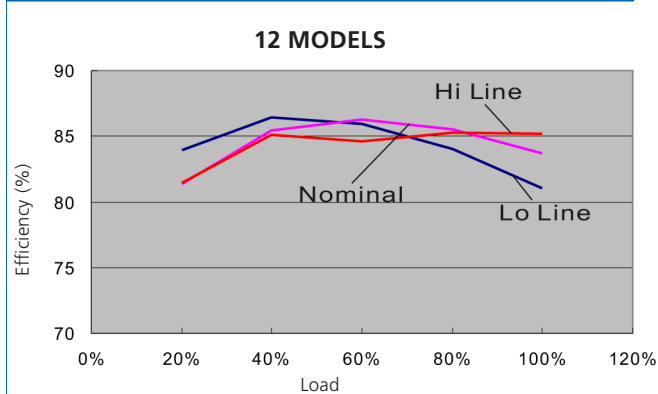


	C1	L	C2
RR4-12XXX08A1	100uF, 100V	12uH	N/A
RR4-24XXX08A1	100uF, 100V	12uH	N/A
RR4-48XXX08A1	100uF, 100V	12uH	N/A

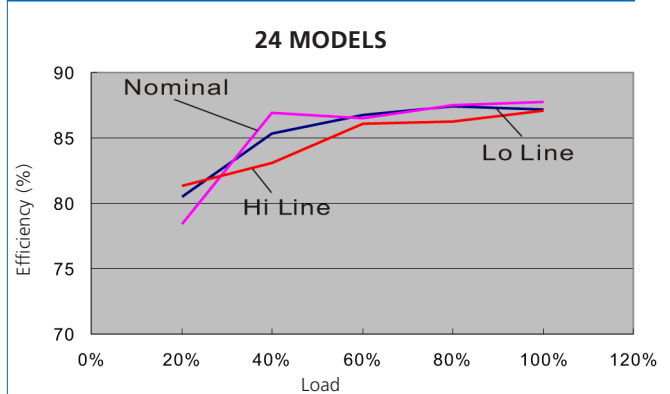
RR4-S08/D08

8 Watt 2:1 regulated
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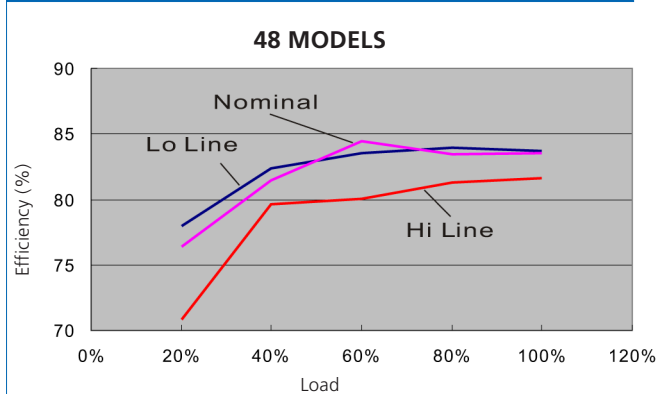
EFFICIENCY VS OUTPUT CURRENT 12



EFFICIENCY VS OUTPUT CURRENT 24



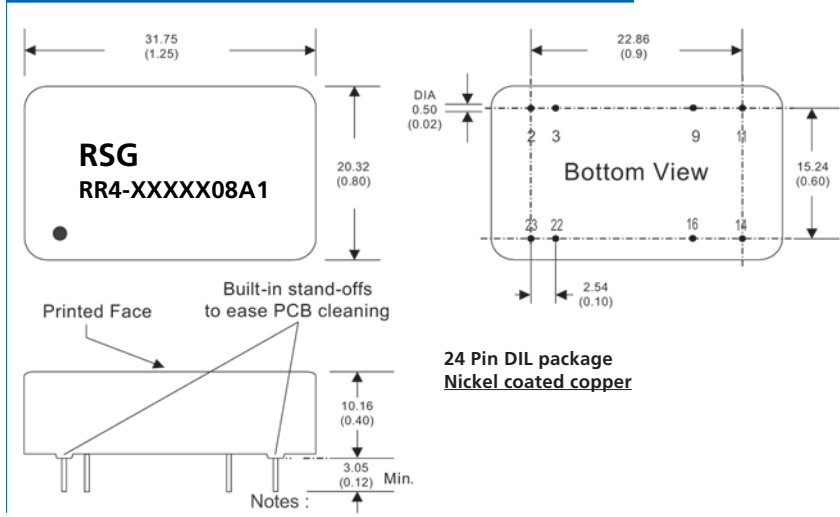
EFFICIENCY VS OUTPUT CURRENT 48



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

MECHANICAL SPECIFICATIONS



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