

RV1-S10/D10

10 Watt regulated
single & dual output



- 2"x1" package, wide 2:1 input range
- Full SMD technology
- 1500 VDC isolation
- Continuous short circuit protection
- Efficiency up to 86%
- -40°C~85°C operation temperature range
- EMI complies with EN55022 class A

OUTPUT SPECIFICATIONS

Voltage accuracy	± 1%
Line regulation	± 0.5%
Load regulation (From 10% to 100% Load)	± 0.5%
Ripple & Noise (20 MHz bandwidth) (1)	100 mV pk-pk
Over current protection (of max. Io)	140%
Short circuit protection	Indefinite (automatic recovery)
Temperature coefficient	± 0.02%/°C
Capacitor load (2)	See table

INPUT SPECIFICATIONS

Voltage range	See table
Start up time (nom. Vin and constant resistive load)	20ms typ
Max. input current	See table
No-load input current	See table
Input filter	Capacitors
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	500 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	typ. 200 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs.
Safety standard (designed to meet)	IEC 60950-1:2001

EMC CHARACTERISTICS

Radiated Emissions	EN55022	Class A
	FCC 47 CFR	
	Part 15 Subpart B	Class A
ESD	EN61000-4-2	Perf. crit. B
RS	EN61000-4-3	Perf. crit. A

PHYSICAL SPECIFICATIONS

Case material	Nickel-coated brass
Pin material	Ø 1.0 mm brass solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	30 g
Dimensions	2"x1"x 0.4"

ENVIRONMENT SPECIFICATIONS

Operating temperature	-40°C~ 85°C (See derating curve)
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.

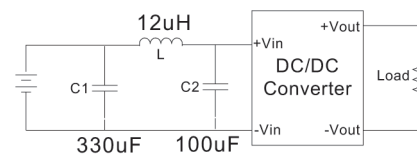
Input voltage (100 mS)	
12 modes	-0.7 ~ 24 VDC
24 modes	-0.7 ~ 40 VDC
48 modes	-0.7 ~ 80 VDC
Lead soldering temperature	260°C
	(1.5 mm from case 10 sec.)

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) Ripple / Noise measured with 20 MHz bandwidth.
- 2) Tested by minimal Vin and constant resistive 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) Operation under no-load conditions will not damage these devices. However they may not meet all listed specifications.
- 6) Add external input filters to meet conducted emissions (EN55022 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“).

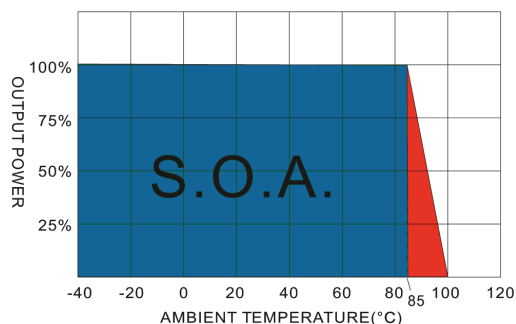
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NUMBER STRUCTURE

RV1	-	XX	XX	S	10	A	1
Name/Package RV1=2"x1"			Output 03=3.3V 05=5V 07=7.2V 09=9V 12=12V 15=15V 18=18V 24=24V	Type S=Single D=Dual	Power 10=10W	Code internal	Isolation 1=1.5 kVDC
		Input 12=9-18V 24=18-36V 48=36-72V					

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)
RV1-1203S10A1	9-18	30 / 705	3.3	2000	78	2200
RV1-1205S10A1	9-18	30 / 1016	5	2000	82	2200
RV1-1207S10A1	9-18	30 / 1004	7.2	1388	83	1000
RV1-1209S10A1	9-18	30 / 1004	9	1111	83	1000
RV1-1212S10A1	9-18	30 / 992	12	833	84	680
RV1-1215S10A1	9-18	30 / 992	15	666	84	470
RV1-1218S10A1	9-18	30 / 980	18	555	85	470
RV1-1224S10A1	9-18	30 / 980	24	416	85	330
RV1-1203D10A1	9-18	30 / 1068	±3.3	±1000	78	±1000
RV1-1205D10A1	9-18	30 / 1016	±5	±1000	82	±1000
RV1-1207D10A1	9-18	30 / 1004	±7.2	±694	83	±680
RV1-1209D10A1	9-18	30 / 992	±9	±555	84	±470
RV1-1212D10A1	9-18	30 / 992	±12	±416	84	±470
RV1-1215D10A1	9-18	30 / 980	±15	±333	85	±330
RV1-1218D10A1	9-18	30 / 980	±18	±277	85	±220
RV1-1224D10A1	9-18	30 / 980	±24	±208	85	±220
RV1-2403S10A1	18-36	25 / 352	3.3	2000	78	2200
RV1-2405S10A1	18-36	25 / 508	5	2000	82	2200
RV1-2407S10A1	18-36	25 / 502	7.2	1388	83	1000
RV1-2409S10A1	18-36	25 / 496	9	1111	84	1000
RV1-2412S10A1	18-36	25 / 496	12	833	84	680
RV1-2415S10A1	18-36	25 / 490	15	666	85	470
RV1-2418S10A1	18-36	25 / 490	18	555	85	470
RV1-2424S10A1	18-36	25 / 484	24	416	86	330
RV1-2403D10A1	18-36	25 / 352	±3.3	±1000	78	±1000
RV1-2405D10A1	18-36	25 / 508	±5	±1000	82	±1000
RV1-2407D10A1	18-36	25 / 502	±7.2	±694	83	±680
RV1-2409D10A1	18-36	25 / 502	±9	±555	83	±470
RV1-2412D10A1	18-36	25 / 496	±12	±416	84	±470
RV1-2415D10A1	18-36	25 / 496	±15	±333	84	±330
RV1-2418D10A1	18-36	25 / 490	±18	±277	85	±220
RV1-2424D10A1	18-36	25 / 490	±24	±208	85	±220

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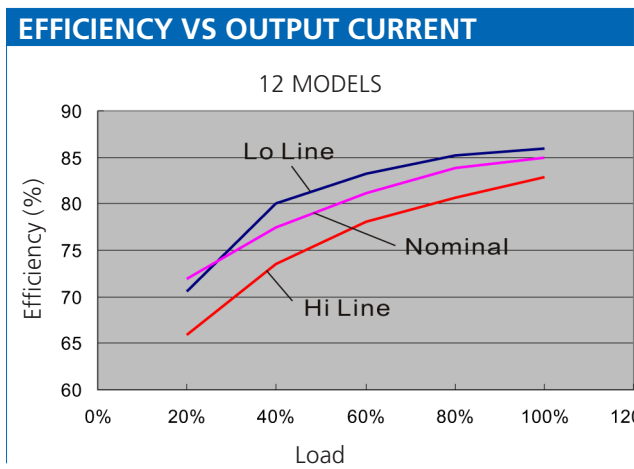
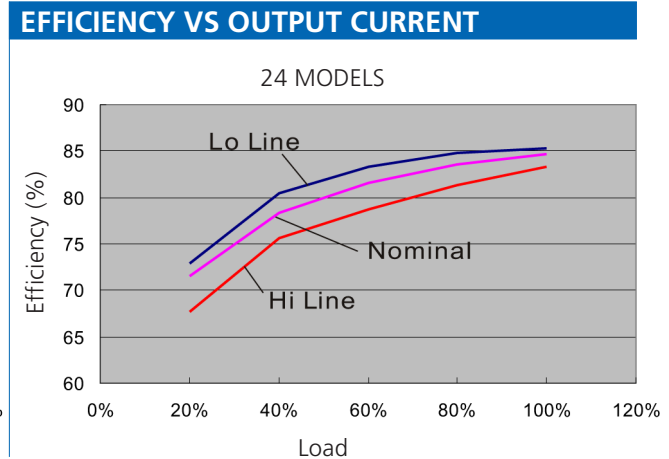
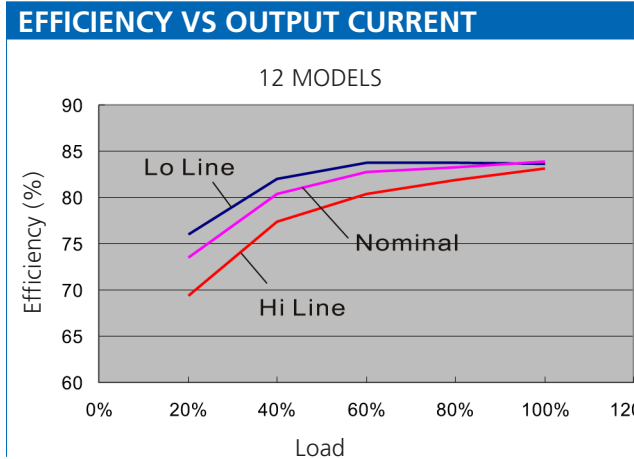
MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC	Output current Full Load (mA)	Efficiency @FL (%)	Capacitor Load (μ F)
RV1-4803S10A1	36-72	20 / 176	3.3	2000	78	2200
RV1-4805S10A1	36-72	20 / 251	5	2000	83	2200
RV1-4807S10A1	36-72	20 / 251	7.2	1388	83	1000
RV1-4809S10A1	36-72	20 / 248	9	1111	84	1000
RV1-4812S10A1	36-72	20 / 248	12	833	84	680
RV1-4815S10A1	36-72	20 / 248	15	666	84	470
RV1-4818S10A1	36-72	20 / 245	18	555	85	470
RV1-4824S10A1	36-72	20 / 245	24	416	86	330
RV1-4803D10A1	36-72	20 / 176	\pm 3.3	\pm 1000	78	\pm 1000
RV1-4805D10A1	36-72	20 / 254	\pm 5	\pm 1000	82	\pm 1000
RV1-4807D10A1	36-72	20 / 248	\pm 7.2	\pm 694	84	\pm 680
RV1-4809D10A1	36-72	20 / 248	\pm 9	\pm 555	84	\pm 470
RV1-4812D10A1	36-72	20 / 245	\pm 12	\pm 416	85	\pm 470
RV1-4815D10A1	36-72	20 / 245	\pm 15	\pm 333	85	\pm 330
RV1-4818D10A1	36-72	20 / 242	\pm 18	\pm 277	86	\pm 220
RV1-4824D10A1	36-72	20 / 242	\pm 24	\pm 208	86	\pm 220



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PIN CONNECTIONS

Pin Number	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	N.P.	Common
5	-V Output	-V Output

