3.0W Regulated Single & Dual Output





an acal group company

RS5-RS30W/RD30W

- 8 Pin SIL Package
- Wide 4:1 Input Range
- 1600VDC Isolation
- Continuous Short Circuit Protection
- Efficiency up to 82%
- Operating Temperature Range -40° ~ +85°C
- Non Conductive Black Plastic Case
- Remote on/off Control(Optional)



RoHS

OUTPUT SPECIFICATION		ENVIRONMENTAL SPECIFICATION		
Voltage accuracy:	±1%	Operating Temperature range:	-40°C ~+85°C (see Derating Curve) 100°C -40°C ~+125°C	
Maximum Output Current:	See table	Maximum Case Temperature:		
Line regulation:	± 0.2% max.	Storage Temperature :		
LOAD REGULATION:	Single (from 0% to 100% Load) $\pm 1\%$ max	Cooling :	Nature Convection	
	Dual (from 10% to 100% Load) $\pm 1\%$ max	PHYSICAL SPECIFICATIONS:		
Cross Regulation (Dual Output):	± 5%	Case Material:	Non conductive black plastic	
Short Circuit Protection :	Indefinite (Automatic Recovery)	PIN Material SIP Case:	C519R-H Solder -coated	
Ripple noise (20Mhz bandwidth):	30mV pk-pk max.	Potting Material:	Silicon (UL94V-0 rated)	
Temperature coefficient:	Temperature coefficient: ±0.02%<>°C		4.8g, typ.	
Capacitor load:	See table	Dimmension SIP:	0.86" x 0.36" x 0.44"	
Transient Recovery Time:	250us, typ.	ABSOLUTE MAXIMUM RATINGS		
Transient Response:	(Deviation) ±3% max.	Input Surge Voltage (100ms)/		
INPUT SPECIFICATIONS		12 V Models:	25VDC max.	
Voltage Range:	See table	12V Models:	50VDC max.	
Start up Time:	30ms, typ.	48V Models:	100VDC max.	
Max. Input Current:	See table	Soldering Temperature:	260°C max. ⁽²⁾	
No-Load/Full-Load Input Current:	See table	EMC SPECIFICATIONS		
Input Filter:	Capacitors	Radiated-/Conducted Emissions:	EN55022 Class A (see EMI Filter note)	
Input Reflected Ripple Current :	20mA pk-pk	ESD:	IEC 61000-4-2 Perf.Criteria A	
GENERAL SPECIFICATIONS	ENERAL SPECIFICATIONS		IEC 61000-4-3 Perf.Criteria A	
Efficiency:	See table	EFT:	IEC 61000-4-4 Perf.Criteria A	
I/O Isolation Voltage (60sec):	1600VDC	SURGE:	IEC 61000-4-5 Perf.Criteria A	
I/O Isolation Capacitance:	200pF max.	CS:	IEC 61000-4-6 Perf.Criteria A	
I/O Isolation Resistance:	1000M Ohm, min	PFMF	IEC 61000-4-8 Perf.Criteria A	
Switching Frequency:	250kHz, typ.	1) These are stress ratings. Exposure of dev	ices to any of these conditions may	
Humidity:	95% rel H	adversely affect long-term reliability. 2) (1.5mm from case 10sec Max.) 3) All specifications typical at TA= 25°C, nominal input voltage and full load		
Reliability Calculated MTBF :	> 1.7MHrs			
(MIL-HDBK-217 †)		unless otherwise specified. 4) The information and specification contain	ned in this data sheet are believed	
Safety Standard: (designed to meet): IEC 60950-1		to be correct at time of publication. However RSG accepts no		
Remote on Controll:	on: 0 open or high impedance	responsibility for consequences arising fr Specifications are subject to change withour	om printing errors or inaccuracies. t notice.	
Remote off Controll:	Off: 2-4mA Input current (Via 1K)			
Off stand by current (Nominal Vin):	2.5mA max.			

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Α T

X W

Isolation

W = 4:1 input Range

(kVDC)

1 = 1.6



RS5-RS30W/RD30W NUMBER STRUCTURE XX XX XX XX RS5 -Output Name/Package Power (W) Code RS5=SIL8 03=3.3V 20=3.00 internal 05=5.0V 30=3.00 Input 12=12V 12=4.5-18V 24=9.0-36V Туре 15=15V RS=Regulated Single 48=18-75V RD=Regulated Dual



MODEL SELECTION GUIDE

	INPUT	INPUT	Current	OUTPUT	OUTPUT Current			
MODEL NUMBER	Voltage	No-Load	Full Load	Voltage	Min. load	Full load	EFFICIENCY	Capacito
	Range	(mA)	(mA)	(Vdc)	(mA)	(mA)	@FL(%)	r
RS5-1203RS30A1W	4.5-18	40	268	3.3	0	700	72	1760uF
RS5-1205RS30A1W	4.5-18	40	325	5	0	600	77	1000uF
RS5-1212RS30A1W	4.5-18	40	309	12	0	250	81	170uF
RS5-1215RS30A1W	4.5-18	40	309	15	0	200	81	110uF
RS5-1205RD30A1W	4.5-18	40	325	±5	0	±300	77	±470uF
RS5-1212RD30A1W	4.5-18	40	313	±12	0	±125	80	±100uF
RS5-1215RD30A1W	4.5-18	40	313	±15	0	±100	80	±47uF
RS5-2403RS30A1W	9-36	25	129	3.3	0	700	75	1760uF
RS5-2405RS30A1W	9-36	25	159	5	0	600	79	1000uF
RS5-2412RS30A1W	9-36	30	153	12	0	250	82	170uF
RS5-2415RS30A1W	9-36	30	153	15	0	200	82	110uF
RS5-2405RD30A1W	9-36	30	159	±5	0	±300	79	±470uF
RS5-2412RD30A1W	9-36	35	159	±12	0	±125	79	±100uF
RS5-2415RD30A1W	9-36	35	157	±15	0	±100	80	±47uF
RS5-4803RS30A1W	18-75	15	66	3.3	0	700	74	1760uF
RS5-4805RS30A1W	18-75	15	81	5	0	600	78	1000uF
RS5-4812RS30A1W	18-75	15	79	12	0	250	80	170uF
RS5-4815RS30A1W	18-75	15	78	15	0	200	81	110uF
RS5-4805RD30A1W	18-75	15	80	±5	0	±300	79	±470uF
RS5-4812RD30A1W	18-75	15	80	±12	0	±125	79	±100uF
RS5-4815RD30A1W	18-75	15	80	±15	0	±100	79	±47uF

1. One load is 25% to 100% load, the other load is 100% load, the output voltage variable rate is within ±5%.

2. Measured with a 1uF ceramic capacitor.

3. Test by minimal Vin and constant resistive load.

4. Test by normal Vin and 100%-25% load,25% load step change.

5. Measured Input reflected ripple current with a simulated source inductance of 12uH and a source capacitor Cin(47uF, ESR<1.0Ω at 100KHz).

6. Exceeding the absolute ratings of the unit could cause damage. It's not allowed for continuous operating ratings.

7. Input filter components are be required to help meet conducted emission class A, which

application refer to the EMI Filter of design & feature configuration.

8. An external filter capacitor is required if the module has to meet IEC61000-4-4 and IEC61000-4-5. The

filter capacitor RSG suggest: Nippon - chemi - con KY series, 220uF/100V.

RS5-RS30W/RD30W





Input Reflected Ripple Current Test Step

Input reflected ripple current is measured through a source inductor Lin(12uH) and a source capacitor Cin(47uF, ESR<1.0© at 100KHz) at nominal input and full load.



Output Ripple & Noise Measurement Test

Use a capacitor Cout(1.0uF) measurement. The Scope measurement bandwidth is 0-20MHz.





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	C1	L
RS5-12XXRS/RD30A1W	1210 10uF/35V	2.5uH
RS5-24XXRS/RD30A1W	1210 2.2uF/100V	10uH
RS5-48XXRS/RD30A1W	1210 2.2uF/100V	18uH

EMI Filter

Input filter components (C1, L) are used to help meet conducted emissions requirement 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.



RS5-1203RS30A1W

RS5-4815RS30A1W

80%

Hi Line/Iin

100%



we energize electronics!

an acal group company

MECHANICAL SPECIFICATIONS





8 Pin SIL Package

11.10

(0.44)

¥

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

3. Case Tolerance: $\pm 0.5 (\pm 0.02)$

9.20

(0.36)

	PIN CONNECTIONS				
	PIN NUMBER	SINGLE	DUAL		
	1	-V Input	-V Input		
	2	+V Input	+V Input		
	3	Remote On/Off	Remo te On/ Off		
	5	N.C.	N.C.		
	6	+V Output	+V Output		
	7	-V Output	Common		
8		N.C	-V Output		

The models listed above are standard types. If you need special specifications or have questions regarding packing (Tube or Tape&Reel) or need application support, please contact our specialists: sales@rsg-electronic.de or +49 69-984047-0