

RRB-S03

- 24 Pin DIL Package
- Highest Reinforced Isolation
- 5000VAC Isolation
- Minimum internal creepage and clearance distance >8mm
- Short Circuit Protection
- ±20% Input Voltage Range
- Efficiency up to 80%
- Operating Temperature Range -40° ~ +85°C
- DIP 24 Plastic Case



OUTPUT SPECIFICATION	ENVIRONMENTAL SPECIFICATION
Voltage accuracy: ±2%	Operating Temperature range: -40°C ~ +85°C (see Derating Curve)
Line regulation: Single ±0.2% max.	Maximum Case Temperature: 100°C
LOAD REGULATION: from 10% to 100% Load: ±0.5% max.	Storage Temperature : -40°C ~ +125°C
Short Circuit Protection : Continuous (Automatic Recovery)	Cooling : Nature Convection
Ripple noise (20Mhz bandwidth): 85mV pk-pk max.	PHYSICAL SPECIFICATIONS:
Temperature coefficient: ±0.02%/°C	Case Material: Non-conductive Black Plastic (UL94V-0 rated)
Capacitor load: See table	PCB Creepage & Clearance
Transient Recovery Time: 250us,typ.	Distance 8mm min.
INPUT SPECIFICATIONS	PIN Material: 0.5mm Brass Solder coated
Voltage Range: ±20% max.	Weight Case- Sip: 12.5g
Max. Input Current: See table	Potting Material: Epoxy (UL94V-0 rated)
No-Load/Full-Load Input Current: See table	Dimmension DIP: 1.25" x 0.8" x 0.4"
Input Filter: PI Type	ABSOLUTE MAXIMUM RATINGS (1)
Input Reflected Ripple Current : 35mA pk-pk typ.	Soldering Temperature: 260°C max.
OFF idle current: See table	EMC SPECIFICATIONS (2)
GENERAL SPECIFICATIONS	Radiated-/Conducted Emissions: EN55022 Class A see EMI Filter
Efficiency: See table	ESD: IEC 61000-4-2 Perf.Criteria A
I/O Isolation Voltage (60sec): 5000VAC	RS: IEC 61000-4-3 Perf.Criteria A
I/O Isolation Capacitance: 50pF typ.	EFT: IEC 61000-4-4 Perf.Criteria A
I/O Isolation Resistance: 1000M Ohm	SURGE: IEC 61000-4-5 Perf.Criteria A
Switching Frequency: 570kHz typ.	CS: IEC 61000-4-6 Perf.Criteria A
Humidity: 95% rel H	PFMF IEC 61000-4-8 Perf.Criteria A
Reliability Calculated MTBF : > 1.00Mhrs (MIL-HDBK-217 f)	
Safety Standard: (designed to meet): IEC 60950-1	

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

2) (1.5mm from case 10sec Max.)

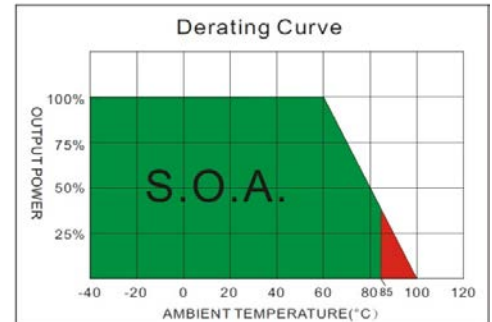
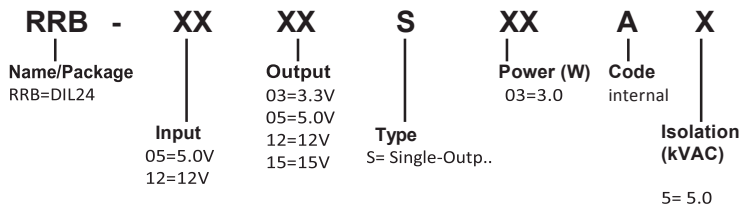
3) All specifications typical at TA= 25°C, nominal input voltage and full load unless otherwise specified.

4) The information and specification contained in this data sheet are believed to be correct at time of publication.

However RSG accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice.

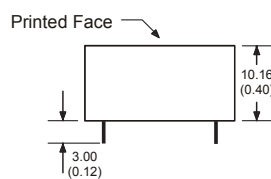
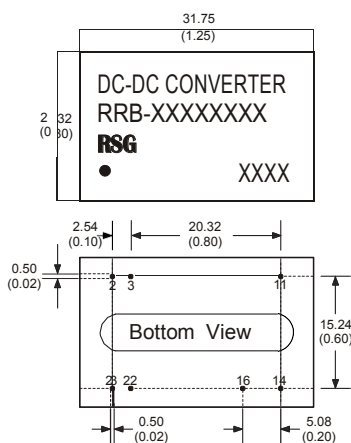
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NUMBER STRUCTURE



MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current Full load (mA)	OUTPUT Ripple & noise (mV)	EFFICIENCY @ FL (% . typ.)	Capacitor Load @LF (uF .max.)
		No-Load (mA)	Full Load (mA)					
RRB-0503S03A5	5	70	633	3.3	700	75	73	470
RRB-0505S03A5	5	85	909	5	700	75	77	470
RRB-0512S03A5	5	95	884	12	291	85	79	220
RRB-0515S03A5	5	115	896	15	233	75	78	220
RRB-1203S03A5	12	30	257	3.3	700	75	75	470
RRB-1205S03A5	12	35	369	5	700	75	79	470
RRB-1212S03A5	12	50	364	12	291	85	80	220
RRB-1215S03A5	12	60	364	15	233	75	80	220



**24 Pin DIL Package
Non-Conductive Plastic**

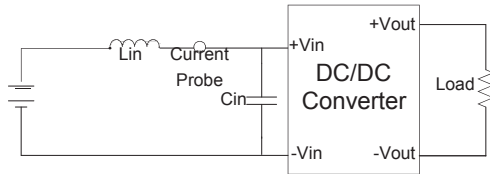
- Notes : All dimensions are typical in millimeters (inches).
1. Pin diameter: 0.5±0.05 (0.02±0.002)
 2. Pin pitch and length tolerance: ±0.35 (±0.014)
 3. Case Tolerance: ±0.5 (±0.02)

PIN CONNECTIONS	
PIN NUMBER	DESCRIPTION
2	-V Input
3	-V Input
11	N.C.
14	+V Output
16	-V Output
22	+V Input
23	+V Input

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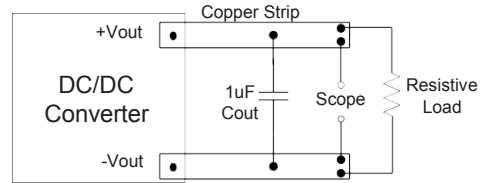
Input Reflected Ripple Current Test Step

Input reflected ripple current is measured through a source inductor L_{in} (12uH) and a source capacitor C_{in} (47uF, ESR<1.0 Ω at 100KHz) at nominal input and full load.



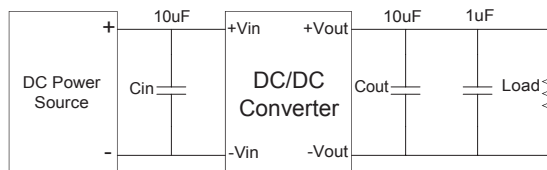
Output Ripple & Noise Measurement Test

Use a capacitor C_{out} (1.0uF) measurement. The Scope measurement bandwidth is 0-20MHz.



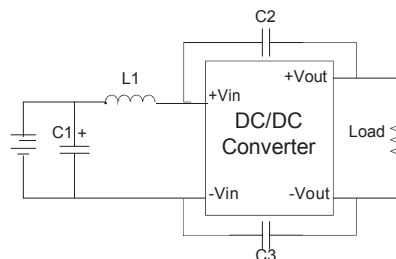
Output Ripple & Noise Reduction

To reduce ripple and noise, it is recommended to use a 1uF ceramic disk capacitor and a 10uF electrolytic capacitor to at the output.



EMI Filter

Input filter components ($C1, C2, C3, L1$) 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.



C1	L1	C2 & C3
47uF, 25V	12uH	150PF/250VAC

C2 & C3 : Y5P Safety Standard Recognized Ceramic Capacitors foot distance 10mm

The models listed here are just standard type. If you need a product with special specification or you have questions regarding packing standards (Tube oder Tape/Reel) as well as application support, please contact our specialists: sales@rsg-electronic.de or +49 69-984047-41/-28