RS3/RD3-E20/T20

2.0 Watt unregulated
dual separate & dual split output

RSG
ELECTRONIC COMPONENTS

- 7 Pin SIP7 / 14 Pin DIP14 package
- 1000 VDC isolation up to 3000 VDC isolation
- Low ripple and noise
- Efficiency up to 85%
- -40°C~85°C operation temperature range
- Non-conductive black plastic case

OUTPUT SPECIFICATIONS

Voltage accuracy	± 3%
Line regulation (Per 1% Vin Charge)	± 1.2%
Load regulation (From 20% to 100% Load)	± 10%
(Output 3.3 V Model)	± 20%
Ripple & Noise (20 MHz bandwith) (1)	75 mV pk-pk
Temperature coefficient	± 0.02%/°C
Capacitor load (2)	See table

INPUT SPECIFICATIONS

Voltage range	± 10%
Max. input current	See table
No-load input current	See table
Input filter	Capacitors
Input reflected ripple current (3)	20 mA pk-pk

GENERAL SPECIFICATIONS

Efficiency	See table
I/O isolation voltage (3 sec.)	
Input / output 1 & output 2	1000 ~ 3000 VDC
Output 1/output 2	1000 VDC
I/O isolation capacitance	60 pF typ.
I/O isolation resistance	1000 M Ohm
Switching frequency	variable 80 kHz
Humidity	95% rel. H
Reliability calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs.
Safety standard (designed to meet)	IEC 60950-1

PHYSICAL SPECIFICATIONS

Case material	Non-conductive black plastic (UL94V-0 rated)
Pin material	0.5 mm Alloy42 solder-coated
Potting material	Epoxy (UL94V-0 rated)
Weight	2.7 g
Dimensions	SIP > 0.76" x 0.28" x 0.39" DIP > 0.80" x 0.40" x 0.27"

ENVIRONMENT SPECIFICATIONS

Operating temperature (See derating curve)	-40°C~ 85°C
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)	
5 modes	0 ~ 7 VDC
12 modes	0 ~ 15 VDC
24 modes	0 ~ 28 VDC
48 modes (SIP)	0 ~ 54 VDC
Lead soldering temperature (1.5 mm from case 10 sec.)	260°C

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 bandwith.
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.

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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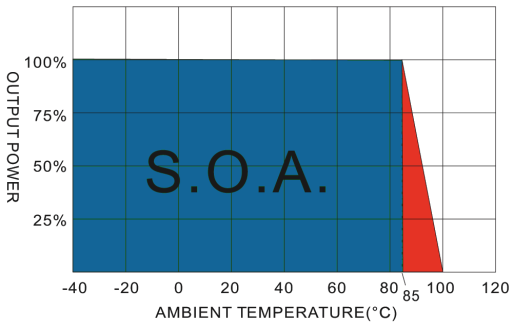
NUMBER STRUCTURE

RS3/RD3 - XX XX E/T 20 A X

- **Name/Package**: RS3=SIL7, RD3=DIL14
- **Input**: 05=5V, 12=12V, 24=24V, 48=48V
- **Output**: 03=3.3V, 05=5V, 07=7.2V, 09=9V, 12=12V, 15=15V, 18=18V, 24=24V
- **Type**: E=Dual separated, T=Dual split
- **Power**: 20=2.0W
- **Code**: internal
- **Isolation**: 1=1.0 kVDC, 3=3.0 kVDC

DERATING CURVE



MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC Output 1	Output current Full Load (mA) output 2Output 1	Efficiency @FL (%) output 2	Capacitor Load (µF)
RS3-0503T20AX	5	35 / 519	5 , 3.3	200 , 200	77	220
RS3-0507T20AX	5	35 / 519	5 , 7.2	200 , 139	77	220
RS3-0509T20AX	5	35 / 519	5 , 9	200 , 111	77	220
RS3-0512T20AX	5	35 / 500	5 , 12	200 , 83	80	220
RS3-0515T20AX	5	35 / 500	5 , 15	200 , 67	80	220
RS3-1203T20AX	12	25 / 216	5 , 3.3	200 , 200	77	220
RS3-1207T20AX	12	25 / 216	5 , 7.2	200 , 139	76	220
RS3-1209T20AX	12	25 / 216	5 , 9	200 , 111	77	220
RS3-1212T20AX	12	25 / 208	5 , 12	200 , 83	80	220
RS3-1215T20AX	12	25 / 208	5 , 15	200 , 67	80	220
RS3-2403T20AX	24	12 / 108	5 , 3.3	200 , 200	77	220
RS3-2407T20AX	24	12 / 108	5 , 7.2	200 , 139	77	220
RS3-2409T20AX	24	12 / 108	5 , 9	200 , 111	77	220
RS3-2412T20AX	24	12 / 104	5 , 12	200 , 83	80	220
RS3-2415T20AX	24	12 / 104	5 , 15	200 , 67	80	220
RD3-0503T20AX	5	35 / 519	5 , 3.3	200 , 200	77	220
RD3-0507T20AX	5	35 / 519	5 , 7.2	200 , 139	77	220
RD3-0509T20AX	5	35 / 519	5 , 9	200 , 111	77	220
RD3-0512T20AX	5	35 / 500	5 , 12	200 , 83	80	220
RD3-0515T20AX	5	35 / 500	5 , 15	200 , 67	80	220
RD3-1203T20AX	12	15 / 216	5 , 3.3	200 , 200	77	220
RD3-1207T20AX	12	15 / 216	5 , 7.2	200 , 139	77	220
RD3-1209T20AX	12	15 / 216	5 , 9	200 , 111	77	220
RD3-1212T20AX	12	15 / 208	5 , 12	200 , 83	80	220
RD3-1215T20AX	12	15 / 208	5 , 15	200 , 67	80	220
RD3-2403T20AX	24	12 / 108	5 , 3.3	200 , 200	77	220
RD3-2407T20AX	24	12 / 108	5 , 7.2	200 , 139	77	220
RD3-2409T20AX	24	12 / 108	5 , 9	200 , 111	77	220
RD3-2412T20AX	24	12 / 104	5 , 12	200 , 83	80	220
RD3-2415T20AX	24	12 / 104	5 , 15	200 , 67	80	220
RS3-0505E20AX	5	35 / 500	5 , 5	200 , 200	80	220
RS3-0507E20AX	5	35 / 500	7.2 , 7.2	139 , 139	80	220
RS3-0509E20AX	5	35 / 500	9 , 9	111 , 111	80	220
RS3-0512E20AX	5	35 / 487	12 , 12	83 , 83	82	220
RS3-0515E20AX	5	35 / 487	15 , 15	67 , 67	82	220
RS3-1205E20AX	12	25 / 208	5 , 5	200 , 200	80	220
RS3-1207E20AX	12	25 / 208	7.2 , 7.2	139 , 139	80	220
RS3-1209E20AX	12	25 / 208	9 , 9	111 , 111	80	220
RS3-1212E20AX	12	25 / 203	12 , 12	83 , 83	82	220
RS3-1215E20AX	12	25 / 198	15 , 15	67 , 67	84	220

RS3/RD3-E20/T20

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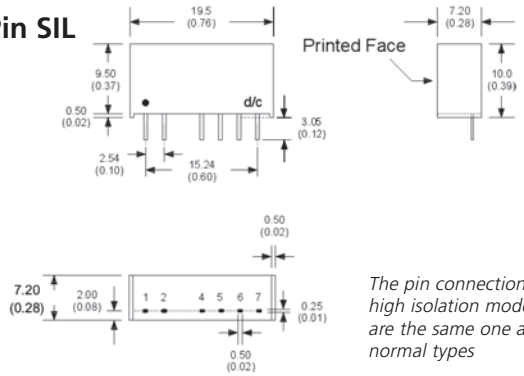
> MODEL SELECTION GUIDE

Model Number	Input Range VDC	Input current (mA) No Load / Full Load	Output VDC Output 1	Output current Full Load (mA) output 2Output 1	Efficiency @FL (%) output 2	Capacitor Load (µF)
RS3-2405E20AX	24	12 / 104	5 , 5	200 , 200	80	220
RS3-2407E20AX	24	12 / 104	7.2 , 7.2	139 , 139	80	220
RS3-2409E20AX	24	12 / 104	9 , 9	111 , 111	80	220
RS3-2412E20AX	24	12 / 101	12 , 12	83 , 83	82	220
RS3-2415E20AX	24	12 / 98	15 , 15	67 , 67	85	220
RD3-0505E20AX	5	35 / 500	5 , 5	200 , 200	80	220
RD3-0507E20AX	5	35 / 500	7.2 , 7.2	139 , 139	80	220
RD3-0509E20AX	5	35 / 500	9 , 9	111 , 111	80	220
RD3-0512E20AX	5	35 / 487	12 , 12	83 , 83	82	220
RD3-0515E20AX	5	35 / 487	15 , 15	67 , 67	82	220
RD3-1205E20AX	12	25 / 208	5 , 5	200 , 200	80	220
RD3-1207E20AX	12	25 / 208	7.2 , 7.2	139 , 139	80	220
RD3-1209E20AX	12	25 / 208	9 , 9	111 , 111	80	220
RD3-1212E20AX	12	25 / 203	12 , 12	83 , 83	82	220
RD3-1215E20AX	12	25 / 198	15 , 15	67 , 67	84	220
RD3-2405E20AX	24	12 / 104	5 , 5	200 , 200	80	220
RD3-2407E20AX	24	12 / 104	7.2 , 7.2	139 , 139	80	220
RD3-2409E20AX	24	12 / 104	9 , 9	111 , 111	80	220
RD3-2412E20AX	24	12 / 101	12 , 12	83 , 83	82	220
RD3-2415E20AX	24	12 / 98	15 , 15	67 , 67	85	220

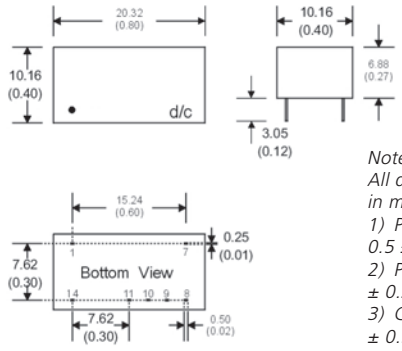
MECHANICAL SPECIFICATIONS

7 Pin SIL



The pin connection of high isolation models are the same one as normal types

14 Pin DIL



Notes:
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)

PIN CONNECTIONS

PIN	DUAL separate
1	+V Input
2	-V Input
4	+V1 Output
5	-V1 Output
6	+V2 Output
7	-V2 Output

PIN	DUAL separate
1	-V Input
7	N.C
8	-V2 Output
9	+V2 Output
10	-V1 Output
11	+V1 Output
14	+V Input

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