

RDD08U SERIES



DC - DC CONVERTER

6.6 ~ 8.1W SINGLE & DUAL OUTPUT

FEATURES

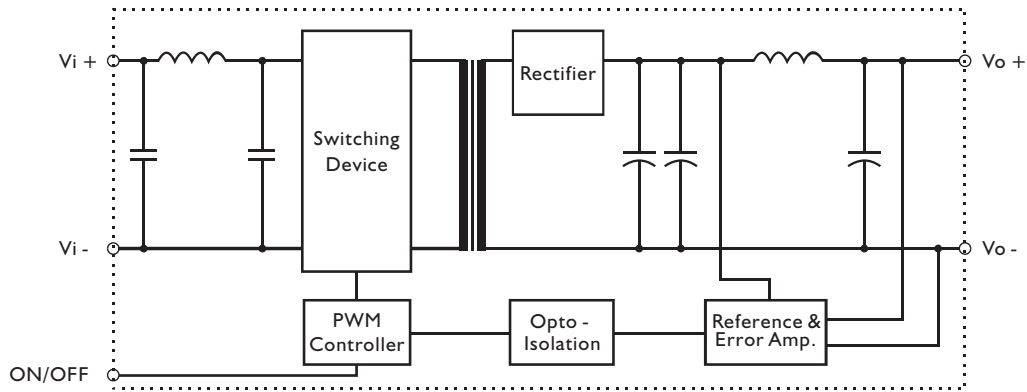
- LOW COST
- 2:1 WIDE INPUT RANGE
- I/O ISOLATION
- INPUT Pi FILTER
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- UL/cUL/TUV/CE

MODEL LIST

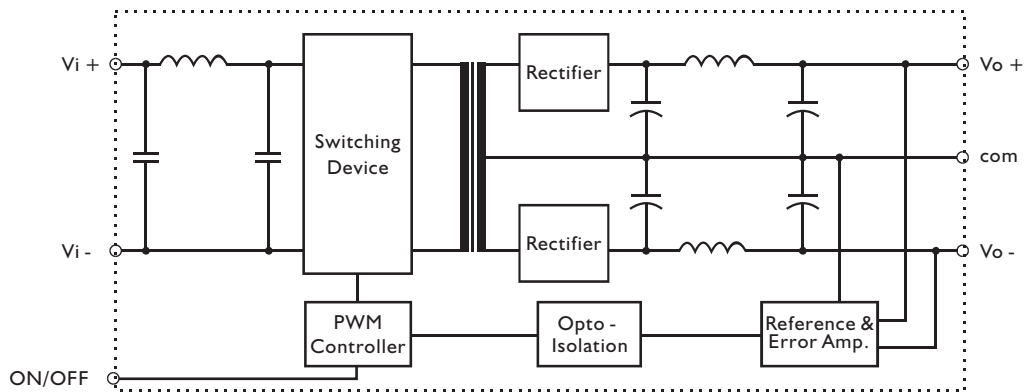
| MODEL NO. | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (TYP.) | EFF. (min.) |
|-----------------------------|---------------|----------------|----------------|----------------|-------------|-------------|
| Single Output Models | | | | | | |
| RDD08 - 03S1U | 9~18 VDC | 6.6 WATTS | +3.3 VDC | 2000 mA | 80% | 78% |
| RDD08 - 05S1U | 9~18 VDC | 7.5 WATTS | + 5 VDC | 1500 mA | 82% | 80% |
| RDD08 - 12S1U | 9~18 VDC | 8 WATTS | + 12 VDC | 670 mA | 85% | 83% |
| RDD08 - 15S1U | 9~18 VDC | 8.1 WATTS | + 15 VDC | 540 mA | 85% | 83% |
| RDD08 - 03S2U | 18~36 VDC | 6.6 WATTS | +3.3 VDC | 2000 mA | 80% | 78% |
| RDD08 - 05S2U | 18~36 VDC | 7.5 WATTS | + 5 VDC | 1500 mA | 83% | 81% |
| RDD08 - 12S2U | 18~36 VDC | 8 WATTS | + 12 VDC | 670 mA | 85% | 83% |
| RDD08 - 15S2U | 18~36 VDC | 8.1 WATTS | + 15 VDC | 540 mA | 85% | 83% |
| RDD08 - 03S3U | 35~75 VDC | 6.6 WATTS | +3.3 VDC | 2000 mA | 80% | 78% |
| RDD08 - 05S3U | 35~75 VDC | 7.5 WATTS | + 5 VDC | 1500 mA | 83% | 81% |
| RDD08 - 12S3U | 35~75 VDC | 8 WATTS | + 12 VDC | 670 mA | 85% | 83% |
| RDD08 - 15S3U | 35~75 VDC | 8.1 WATTS | + 15 VDC | 540 mA | 85% | 83% |
| Dual Output Models | | | | | | |
| RDD08 - 05D1U | 9~18 VDC | 8 WATTS | ± 5 VDC | ± 800 mA | 82% | 80% |
| RDD08 - 12D1U | 9~18 VDC | 8.1 WATTS | ± 12 VDC | ± 340 mA | 85% | 83% |
| RDD08 - 15D1U | 9~18 VDC | 8.1 WATTS | ± 15 VDC | ± 270 mA | 85% | 83% |
| RDD08 - 05D2U | 18~36 VDC | 8 WATTS | ± 5 VDC | ± 800 mA | 83% | 81% |
| RDD08 - 12D2U | 18~36 VDC | 8.1 WATTS | ± 12 VDC | ± 340 mA | 85% | 83% |
| RDD08 - 15D2U | 18~36 VDC | 8.1 WATTS | ± 15 VDC | ± 270 mA | 85% | 83% |
| RDD08 - 05D3U | 35~75 VDC | 8 WATTS | ± 5 VDC | ± 800 mA | 83% | 81% |
| RDD08 - 12D3U | 35~75 VDC | 8.1 WATTS | ± 12 VDC | ± 340 mA | 85% | 83% |
| RDD08 - 15D3U | 35~75 VDC | 8.1 WATTS | ± 15 VDC | ± 270 mA | 85% | 83% |

CIRCUIT SCHEMATIC

• Block diagram for RDD08U series with single output



• Block diagram for RDD08U series with dual output



SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL

| Characteristics | Conditions | min. | typ. | max. | unit |
|----------------------|-----------------------------|--------------------|------|-------|--------|
| Switching frequency | Vi nom, Io nom | | 280 | | KHz |
| Isolation voltage | Input / Output | 1,500 | | | VDC |
| Isolation resistance | Input / Output, @ 500VDC | 1G | | | Ω |
| Ambient temperature | Operating at Vi nom, Io nom | -40 | | + 71 | °C |
| Case temperature | Operating at Vi nom, Io nom | | | + 100 | °C |
| Derating | Vi nom | See derating curve | | | % / °C |
| Storage temperature | Non operational | -40 | | + 100 | °C |
| Dimension | L20.3 x W31.8 x H10.2 | | | | mm |
| Cooling | Free air convection | | | | |
| Case material | Tinplate nickel plated | | | | |

INPUT SPECIFICATIONS

| Characteristics | Conditions | min. | typ. | max. | unit |
|--------------------------|---------------------------|------------|------|------|------|
| Input voltage range | Ta min ... Ta max, Io nom | 9 | 12 | 18 | VDC |
| | | 18 | 24 | 36 | VDC |
| | | 35 | 48 | 75 | VDC |
| No load input current | Vi nom, Io = 0 | 12V models | 30 | | mA |
| | | 24V models | 25 | | mA |
| | | 48V models | 20 | | mA |
| Input voltage w/o damage | Io nom | 12V models | | 20 | VDC |
| | | 24V models | | 40 | VDC |
| | | 48V models | | 80 | VDC |
| startup voltage | Io nom | 12V models | 8.7 | | VDC |
| | | 24V models | 17.4 | | VDC |
| | | 48V models | 31.5 | | VDC |
| Input filter | Pi type | | | | |

OUTPUT SPECIFICATIONS

| Characteristics | Conditions | min. | typ. | max. | unit |
|-------------------------|---|---------------------------|------|--------|--------|
| Output voltage accuracy | Vi nom, Io nom | | | ± 2 | % |
| Minimum load | Vi nom single output models | 0 | | | % |
| | Vi nom dual output models (each output) | 10 | | | % |
| Line regulation | Io nom, Vi min ... Vi max | | | ± 0.5 | % |
| Load regulation | Vi nom, Io 0 ... Io nom, single output models | | | ± 0.5 | % |
| | Vi nom, Io min ... Io nom, dual output models | | | ± 1 | % |
| Transient recovery time | Vi nom, Io nom = I ↔ 1/2 Io nom | | 1 | | ms |
| Temperature coefficient | Vi nom, Io nom | | | ± 0.02 | % / °C |
| Ripple & noise | Vi nom, Io nom, BW = 20MHz | | | 50 | mV |
| Efficiency | Vi nom, Io nom, Po / Pi | Up to 85%, See model list | | | |
| Capacitive Load | Io nom | 3.3Vout models | | 3300 | μ F |
| | | 5.0Vout models | | 2200 | |
| | | 12.0Vout models | | 470 | |
| | | 15.0Vout models | | 330 | |
| | | ± 5Vout models | | ± 1000 | |
| | | ± 12Vout models | | ± 180 | |
| | | ± 15Vout models | | ± 100 | |

RDD08U SERIES

SINGLE & DUAL OUTPUT

CONTROL AND PROTECTION

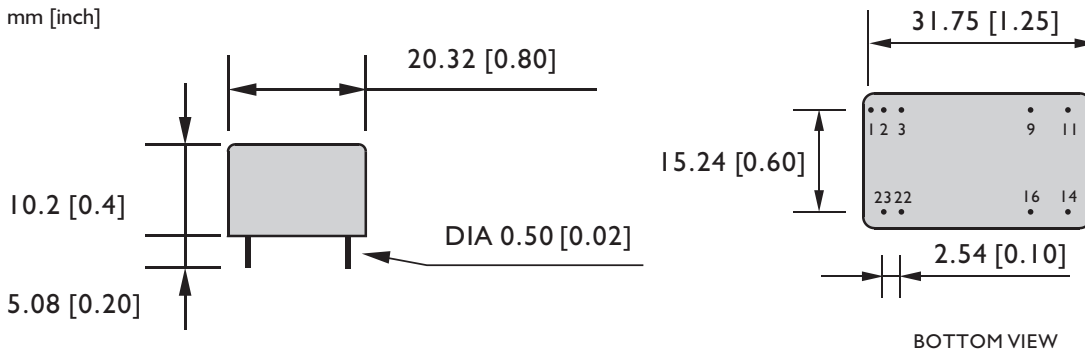
| | |
|----------------------------|--|
| Input reversed | Shunt diode built in, external fuse recommended |
| Output short circuit | Continuous |
| Rated over load protection | 110%min....140%max |
| Remote on/off control | ON : 3....10Vdc or open circuit OFF: 0....1.5Vdc or short circuit pin1 and pin2,3 |

APPROVALS AND STANDARD

| | |
|--------|----------------------------|
| UL/cUL | UL60950-1 |
| TUV | EN60950-1 |
| CE | EN61204-3(Class A for EMI) |

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

| | |
|---------------|---|
| CASE SIZE | 20.3 x 31.8 x 10.2 mm 0.8 x 1.25 x 0.4 inches |
| CASE MATERIAL | Tinplate nickel plated |
| WEIGHT | 16 g |

PIN ASSIGNMENT

GENERAL

| PIN NO. | 1 | 2 & 3 | 9 | 11 | 14 | 16 | 22 & 23 |
|---------|---------------|-------|-------|-------|-----|------|---------|
| SINGLE | Remote On/Off | Vi - | N. C. | N. C. | Vo+ | Vo - | Vi+ |
| DUAL | Remote On/Off | Vi - | com | Vo - | Vo+ | com | Vi+ |

DERATING

