

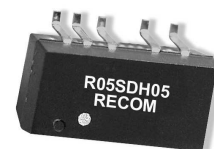
EUROLINE - DC/DC-Converter

RxxSDHxx Series, 1 Watt, SMD, 3kVDC Isolation (Dual Output)

RECOM

Features

- Wide Temperature Performance at full 1 Watt Load, -40°C to $+85^{\circ}\text{C}$
- 3kVDC Isolation
- Efficiency to 82%
- UL 94V-0 Package Material
- Internal SMD Construction
- MTTF up to 2.1 Million Hours
- Multi Layer Ceramic Capacitors



Selection Guide 5V and 12V input types

| Part Number | Nom. Input Voltage (VDC) | Rated Output Voltage (VDC) | Rated Output Current (mA) | Input Current at Rated Load (mA) | Efficiency (%) | Isolation Capacitance (pF) | Package Style |
|-------------|--------------------------|----------------------------|---------------------------|----------------------------------|----------------|----------------------------|---------------|
| R05SDH05 | 5 | ± 5 | ± 100 | 282 | 71 | 33 | |
| R05SDH09 | 5 | ± 9 | ± 55 | 260 | 77 | 38 | |
| R05SDH12 | 5 | ± 12 | ± 42 | 253 | 79 | 44 | |
| R05SDH15 | 5 | ± 15 | ± 33 | 250 | 80 | 43 | SMD |
| R12SDH05 | 12 | ± 5 | ± 100 | 114 | 73 | 50 | 22Pin |
| R12SDH09 | 12 | ± 9 | ± 55 | 105 | 79 | 72 | |
| R12SDH12 | 12 | ± 12 | ± 42 | 104 | 80 | 89 | |
| R12SDH15 | 12 | ± 15 | ± 33 | 101 | 82 | 100 | |

Absolute Maximum Ratings

| | | |
|--|-----------------------|-----------|
| Input Voltage V_{IN} | 5V types 12V types | 7V 15V |
| Short Circuit Duration ¹⁾ | | 1s |
| Internal Power Dissipation | | 550mW |
| Lead Temperature (1.5 mm from case for 10 seconds) | | 300 °C |

¹⁾ Supply voltage must be discontinued at the end of the short circuit duration.

Electrical Specifications (measured at $T_A = 25^{\circ}\text{C}$, at nominal input voltage and rated output current unless otherwise specified)

| | | |
|---|--|--|
| Input Voltage Range V_{IN} (continuous operation) | 5V input types 12V input types | 4.5VDC min. / 5.5VDC max. 10.8VDC min. / 13.2VDC max. |
| Reflected Ripple Current (depending on the type) | | 41 mA p-p min. to 47 mA p-p max. |
| Voltage Set Point Accuracy (depending on the type) | | See Tolerance Envelope |
| Line Regulation (depending on the type) | | 1.0% / 1.2% of V_{IN} |
| Load Voltage Regulation (10% load to rated load) (12V input types have typically 3% less load regulation change) | 5V output types 9V output types 12V output types 15V output types | 10% min. / 12% max. 6.5% min. / 8.0% max. 6.0% min. / 8.5% max. 6.0% min. / 7.0% max. |
| Ripple & Noise (20MHz band limited), (depending on the type) | | 40mVp-p min. / 75mVp-p max. |
| Isolation Voltage (for 1 minute) | | 3000VDC min. |
| Test Voltage (50Hz, 10 seconds) | | 3000 Vpk min. |
| Resistance (Viso = 1000V) | | 10 G Ω min. |
| Switching Frequency at Full Load (depending on the type) | V_{IN} all types | 115kHz nom. |
| Package Weight | | 1.53 g |
| Operating Temperature Range (all output types) | | -40°C min. to $+85^{\circ}\text{C}$ max. (see graph) |
| Storage Temperature Range | | -55°C min. $+125^{\circ}\text{C}$ max. |
| Case Temperature above Ambient | 5V output types all other types | $+46^{\circ}\text{C}$ nom. $+35^{\circ}\text{C}$ nom. |
| MTTF ²⁾ (depending on the type) | -40°C $+25^{\circ}\text{C}$ $+85^{\circ}\text{C}$ | 184kHrs min. / 2068kHrs max. 154kHrs min. / 1697kHrs max. 129kHrs min. / 1368kHrs max. |

²⁾ Calculated using MIL-HDBK-217F with nominal input voltage at full load.

Please contact us, if you need exact parameters for the converter you have selected..

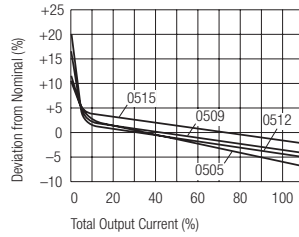
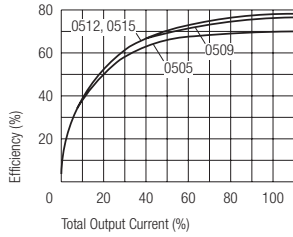
EUROLINE - DC/DC-Converter

RxxSDHxx Series, 1 Watt, SMD, 3kVDC Isolation (Dual Output)

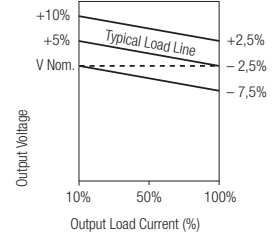
RECOM

Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

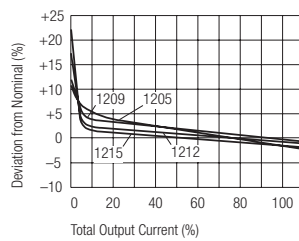
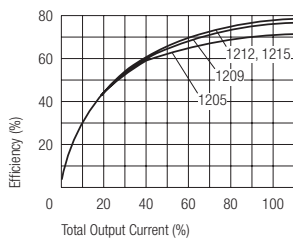
R05SDHxx



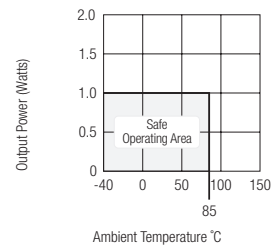
Tolerance Envelope



R12SDHxx

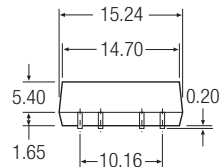
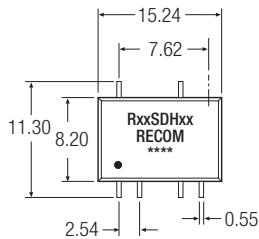
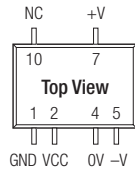


Temperature Derating Graph

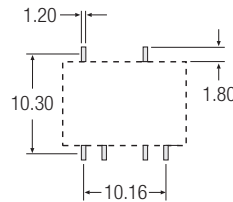


Package Style and Pinning (mm)

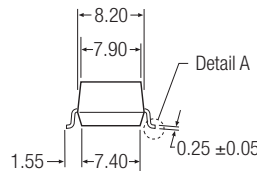
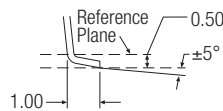
10 Pin SMD Package Style



Recommended Footprint Details



Detail A



XX.X ± 0.5 mm
XX.XX ± 0.25 mm