

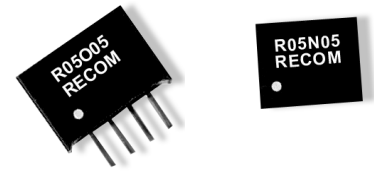
EUROLINE - DC/DC-Converter

RxxN and RxxO Series, 1 Watt, DIP8/SIP4, 1kVDC Isolation (Single Output)

RECOM

Features

- Wide Temperature Performance at full 1 Watt Load, -40°C to $+85^{\circ}\text{C}$
- 1kVDC Isolation
- Industry Standard Pinout
- Efficiency to 80%
- UL 94V-0 Package Material
- Internal SMD Construction
- Toroidal Magnetics
- MTTF up to 2.9 Million Hours



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 |
|-------------|--------------------------|----------------------------|---------------------------|----------------------------------|----------------|----------------------------|---------------|
| R05N05 | 5 | 5 | 200 | 289 | 69 | 30 | DIP8 |
| R05N09 | 5 | 9 | 111 | 260 | 77 | 37 | |
| R05N12 | 5 | 12 | 83 | 256 | 78 | 33 | |
| R05N15 | 5 | 15 | 66 | 250 | 80 | 40 | |
| R05O05 | 5 | 5 | 200 | 289 | 69 | 30 | |
| R05O09 | 5 | 9 | 111 | 260 | 77 | 37 | |
| R05O12 | 5 | 12 | 83 | 256 | 78 | 33 | |
| R05O15 | 5 | 15 | 66 | 250 | 80 | 40 | |
| R12N05 | 12 | 5 | 200 | 120 | 69 | 33 | DIP8 |
| R12N09 | 12 | 9 | 111 | 113 | 74 | 48 | |
| R12N12 | 12 | 12 | 83 | 110 | 76 | 55 | |
| R12N15 | 12 | 15 | 66 | 111 | 75 | 52 | |
| R12O05 | 12 | 5 | 200 | 120 | 69 | 33 | |
| R12O09 | 12 | 9 | 111 | 113 | 74 | 48 | |
| R12O12 | 12 | 12 | 83 | 110 | 76 | 55 | |
| R12O15 | 12 | 15 | 66 | 111 | 75 | 52 | |

Absolute Maximum Ratings

| | |
|--|--------|
| Input Voltage V_{IN} 5V types | 7V |
| Input Voltage V_{IN} 12V types | 15V |
| Short Circuit Duration ¹⁾ | 1s |
| Internal Power Dissipation | 450mW |
| 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.

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

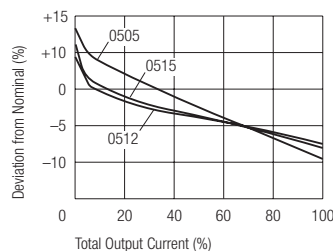
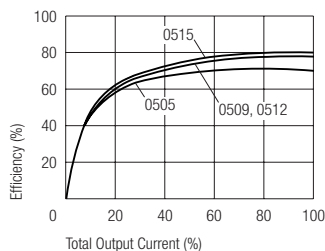
| | | |
|--|--|--|
| Input Voltage Range V_{IN} (continuous operation) | 5V input types 12V input types | 4.5VDC min./ 5.5VDC max. 10.8VDC min./ 13.2VDC max. |
| Reflected Ripple Current (depending on the type) | | 26 mA p-p min. to 48 mA p-p max. |
| Voltage Set Point Accuracy | | See Tolerance Envelope |
| Line Regulation | | 1.0% / 1.2% of V_{IN} |
| Load Voltage Regulation (10% load to 100% full load) | 5V output types 9V output types 12V output types 15V output types | 14% min. / 15% max. 9% min. / 10% max. 7.5% min. / 9.5% max. 7% min. / 8.5% max. |
| Ripple & Noise (20MHz band limited), (depending on the type) | | 40mVp-p min. / 110mVp-p max. |
| Isolation Voltage (flash tested for 1 second) | | 1000VDC min. |
| Test Voltage (50Hz, 10 seconds) | | 1000 Vpk min. |
| Resistance (Viso = 500V) | | 10 G Ω typ. |
| Switching Frequency at Full Load | V_{IN} 5V input types V_{IN} 12V input types | 110kHz typ. 145kHz typ. |
| Package Weight | SIP types DIP types | 1.30 g 1.48 g |
| Operating Temperature Range (all output types) | | -40°C min. to +85°C max. (see graph) |
| Storage Temperature Range | | -50°C min. +130°C max. |
| Case Temperature Above Ambient (depending on the type) | 5V output types all other output types | +41°C max. +32°C max. |
| MTTF ¹⁾ (depending on the type) | -40°C +25°C +85°C | 302kHrs min. / 2938kHrs max. 252kHrs min. / 2414kHrs max. 212kHrs min. / 1961kHrs max. |

¹⁾ Calculated using MIL-HDBK-217F with nominal input voltage at full load.

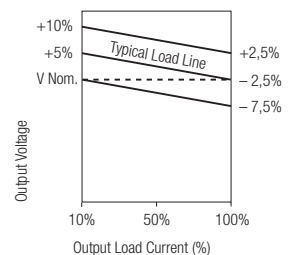
Please contact us, if you need exact parameters for the converter you have selected.

Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

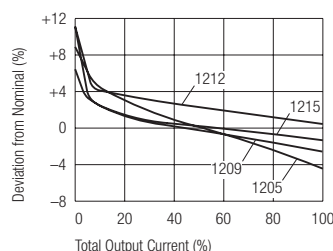
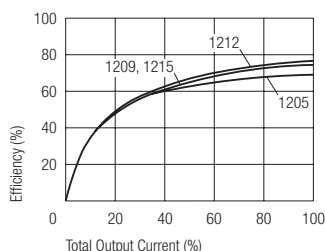
R05N/Oxx



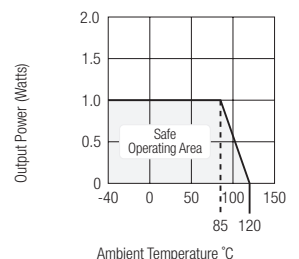
Tolerance Envelope



R12N/Oxx

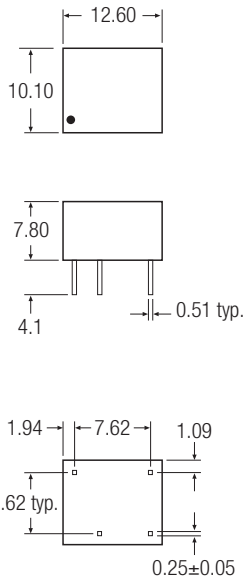
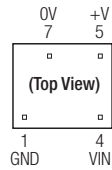


Temperature Derating Graph

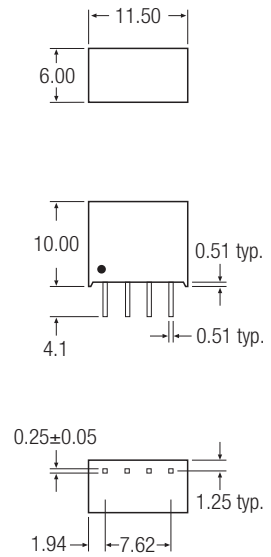
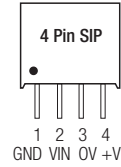


Package Style and Pinning (mm)

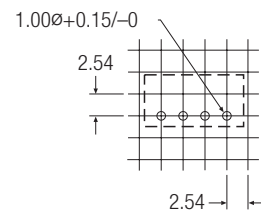
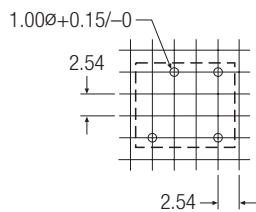
8 Pin DIP Package Style



4 Pin SIP Package Style



Recommended Footprint Details



XX.X ± 0.5 mm
XX.XX ± 0.25 mm