

# 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°C
- 1kVDC Isolation
- Industry Standard Pinout
- Efficiency to 80%
- UL 94V-O 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	SIP4
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	SIP4
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 <sup>1)</sup>	1s
Internal Power Dissipation	450mW
Lead Temperature (1.5 mm from case for 10 seconds)	300 °C

<sup>1)</sup> 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)

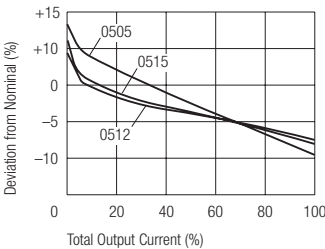
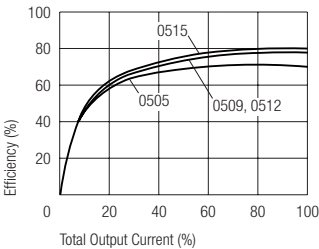
Input Voltage Range $V_{IN}$ (continuous operation)	5V input types 12V input types	4.5VDC min./ 5.5VDC max. 10.8VDC min./ 13.2VDC max.
Reflected Ripple Current (depending on the type)		26 mA p-p min. to 48 mA p-p max.
Voltage Set Point Accuracy		See Tolerance Envelope
Line Regulation		1.0% / 1.2% of $V_{IN}$
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 $\Omega$ 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 $^{\circ}\text{C}$ min. to +85 $^{\circ}\text{C}$ max. (see graph)
Storage Temperature Range		-50 $^{\circ}\text{C}$ min. +130 $^{\circ}\text{C}$ max.
Case Temperature Above Ambient (depending on the type)	5V output types all other output types	+41 $^{\circ}\text{C}$ max. +32 $^{\circ}\text{C}$ max.
MTTF <sup>1)</sup> (depending on the type)	-40 $^{\circ}\text{C}$ +25 $^{\circ}\text{C}$ +85 $^{\circ}\text{C}$	302kHrs min. / 2938kHrs max. 252kHrs min. / 2414kHrs max. 212kHrs min. / 1961kHrs max.

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

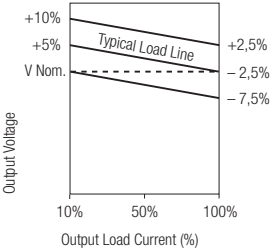
Please contact us, if you need exact parameters for the converter you have selected.

## Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

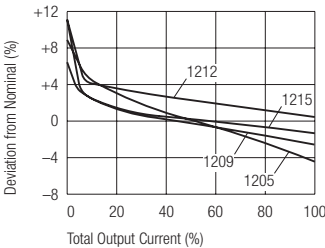
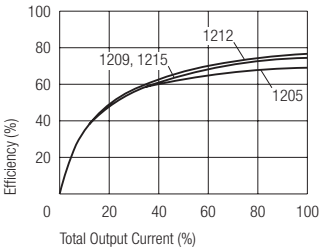
R05N/Oxx



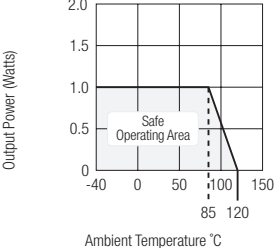
Tolerance Envelope



R12N/Oxx

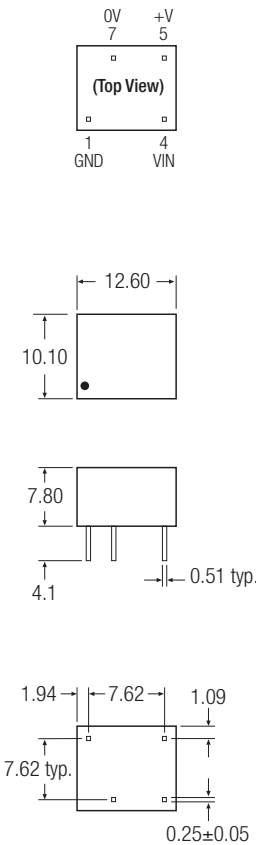


Temperature Derating Graph

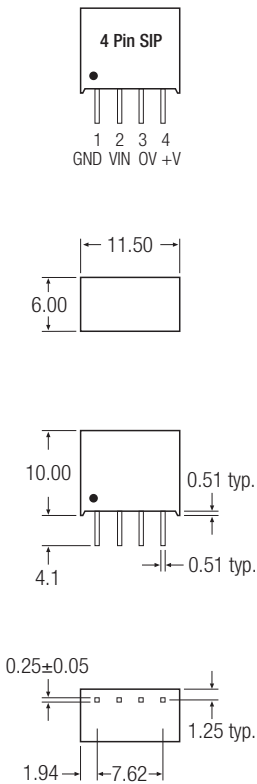


Package Style and Pinning (mm)

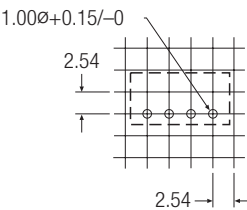
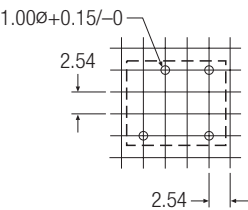
8 Pin DIP Package Style



4 Pin SIP Package Style



Recommended Footprint Details



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm