

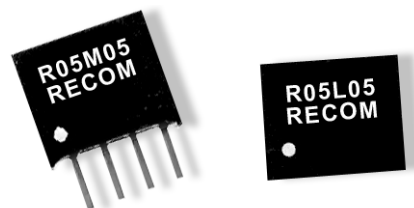
# EUROLINE - DC/DC-Converter

RxxL and RxxM Series, 0.25 Watt, DIP8/SIP4, 1kVDC Isolation (Single Output)

# RECOM

## Features

- High Efficiency for Low Power Applications
- Pin Compatible with Industrie Standard
- Single Output Rail
- UL 94V-0 Package Material
- No Heatsink Required
- Toroidal Magnetics
- Fully Encapsulated
- No External Components Required
- Custom Solutions Available



## Selection Guide 3.3V, 5V and 12V input types

Part Number	Output Voltage (V)	Output Current (mA)	Package Style
RxxL03	3.3	76	DIP8
RxxL05	5	50	
RxxL09	9	28	
RxxL12	12	21	
RxxL15	15	16	
RxxM03	3.3	76	SIP4
RxxM05	5	50	
RxxM09	9	28	
RxxM12	12	21	
RxxM15	15	16	

## Typical Isolation Capacitance (pF)

Part Number	Output Voltage (V)				
	03V	05V	09V	12V	15V
R03L/Mxx	–	25	70	38	38
R05L/Mxx	25	29	37	41	40
R12L/Mxx	–	38	40	43	45

## Absolute Maximum Ratings Over Operating Free Air Temperature Range

Input Voltage $V_{IN}$	3V types	5V
Input Voltage $V_{IN}$	5V types	7V
Input Voltage $V_{IN}$	12V types	15V
Output Power Total		250mW
Short Circuit Duration		1s
Isolation Voltage (flash tested for 1 second)		1000VDC
Operating Free Air Temperature Range (requires a minimum of 10 mm air space around the component)		-40°C to 70°C (see derating Curve)
Storage Temperature Range		-55°C to 150°C
Lead Temperature (1.5 mm from case for 10 seconds)		300 °C

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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)

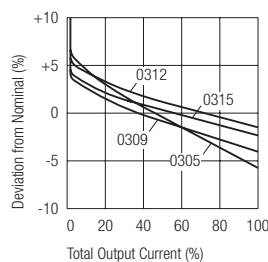
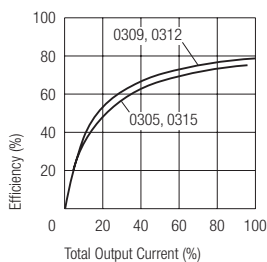
Input Voltage Range $V_{IN}$ (continuous operation)	3V types 5V types 12V types	3.3VDC $\pm 10\%$ 5VDC $\pm 10\%$ 12VDC $\pm 10\%$
Output Voltage Accuracy (depending on the type)		see Tolerance Envelope Graph
Load Voltage Regulation (10% load to 100% full load)	3.3V and 5V output types 9V, 12V and 15V output types	15% max. 10% max.
Line Voltage Regulation (10% load to 100% full load)		1.2% / 1.0% of $V_{IN}$
Input Reflected Ripple (20MHz band limited)	3V types 5V and 12V types	50mVp-p max. 40mVp-p max.
Output Ripple (20MHz band limited)	3V types 5V and 12V types	75mVp-p max. 100mVp-p max.
Isolation Voltage (flash tested for 1 second)		1000VDC
Insulation Resistance at 500VDC		1000M $\Omega$ min.
Switching Frequency at Full Load (typical)		100kHz max.
Package Weight	SIP types DIP types	1.4 g 1.5 g
Efficiency (at full load)	3.3V and 5V output types 9V, 12V and 15V output types	70% typ. / 60% min. 75% typ. / 70% min.
Operating Free Air Temperature Range (requires a minimum of 10 mm air space around the component)		$0^\circ\text{C}$ to $70^\circ\text{C}$ (see derating Curve)
Temperature Drift ( $V_{OUT}$ )		0.03% per $^\circ\text{C}$ max.
Temperature Rise above Ambient (at full load)		$10^\circ\text{C}$ max.
No Load Power Consumption (typical)	3V types 5V and 12V types	50mW typ. 30mW typ.
MTTF <sup>1)</sup> (depending on the type)	$-25^\circ\text{C}$ $+25^\circ\text{C}$ $+75^\circ\text{C}$	273kHrs min. / 3293kHrs max. 237kHrs min. / 2767kHrs max. 208kHrs min. / 2319kHrs max.

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

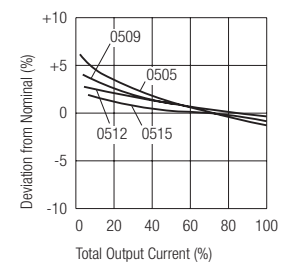
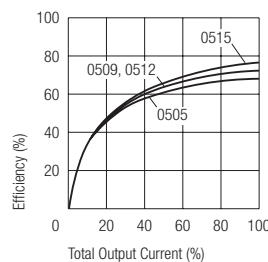
Please contact us, if you need exact parameters for the converter you have selected.

## Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

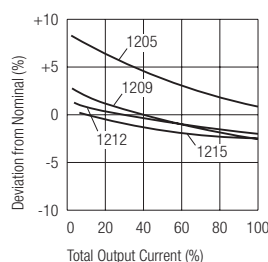
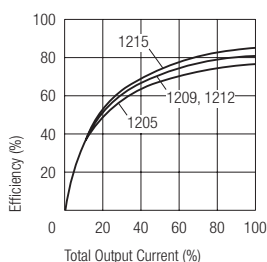
R03L/Mxx



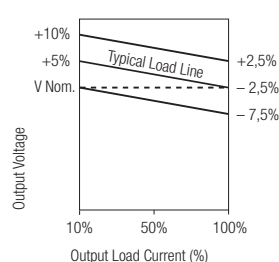
R05L/Mxx



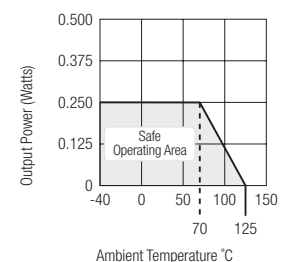
R12L/Mxx



Tolerance Envelope



Temper. Derating Graph



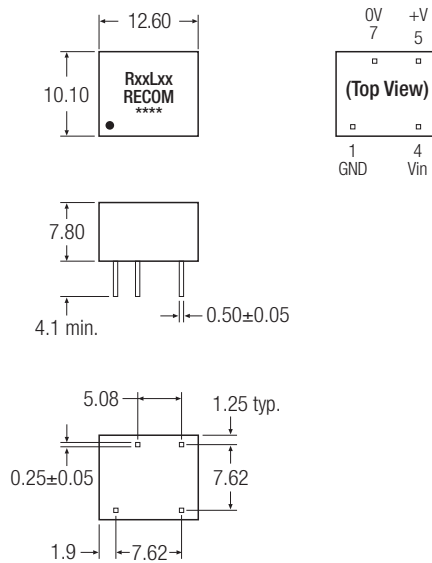
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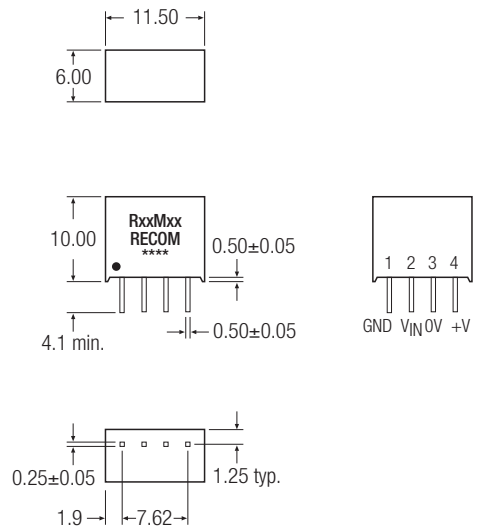
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## Package Style and Pinning (mm)

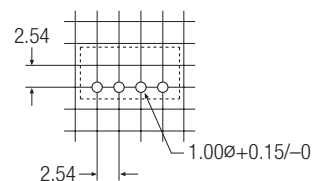
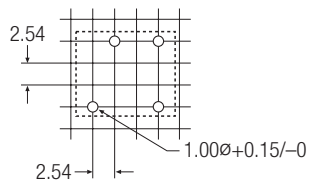
### 8 Pin DIP Package Style



### 4Pin SIP Package Style



### Recommended Footprint Details



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm