

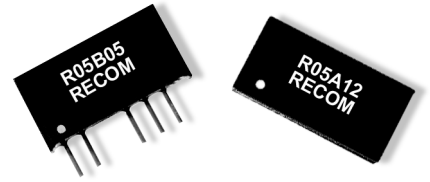
# EUROLINE - DC/DC-Converter

RxxA and RxxB Series, 1 Watt, DIP14/SIP7, 1kVDC Isolation (Dual Output)

# RECOM

## Features

- Wide Temperature Performance at full 1 Watt Load,  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Industry Standard Pinout
- 1kVDC Isolation
- Efficiency to 78%
- UL 94V-0 Package Material
- Internal SMD Construction
- MTTF up to 2.1 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
R05A05	5	$\pm 5$	$\pm 100$	289	69	28	DIP14
R05A09	5	$\pm 9$	$\pm 55$	270	75	32	
R05A12	5	$\pm 12$	$\pm 42$	266	77	34	
R05A15	5	$\pm 15$	$\pm 33$	263	78	36	SIP7
R05B05	5	$\pm 5$	$\pm 100$	289	69	28	
R05B09	5	$\pm 9$	$\pm 55$	270	75	32	
R05B12	5	$\pm 12$	$\pm 42$	266	77	34	DIP14
R05B15	5	$\pm 15$	$\pm 33$	263	78	36	
R12A05	12	$\pm 5$	$\pm 100$	120	69	33	
R12A09	12	$\pm 9$	$\pm 55$	113	74	46	SIP7
R12A12	12	$\pm 12$	$\pm 42$	111	75	55	
R12A15	12	$\pm 15$	$\pm 33$	110	76	54	
R12B05	12	$\pm 5$	$\pm 100$	120	69	33	DIP14
R12B09	12	$\pm 9$	$\pm 55$	113	74	46	
R12B12	12	$\pm 12$	$\pm 42$	111	75	55	
R12B15	12	$\pm 15$	$\pm 33$	110	76	54	SIP7

## 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)

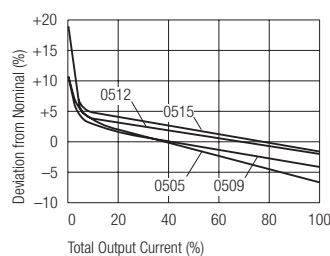
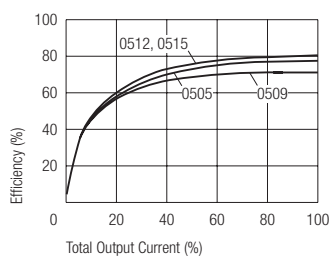
Input Voltage Range $V_{IN}$ (continuous operation)	5V input types 12V input types	4.5VDC min. / 5.5VDC max. 10.8VDC min. / 13.2VDC max.
Reflected Ripple Current (depending on the type)		20 mA p-p min. to 33 mA p-p max.
Voltage Set Point Accuracy (depending on the type)		See Tolerance Envelope
Line Regulation		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	10% min. / 12.5% max. 9% min. / 10% max. 6.5% min. / 7.5% max. 6% min. / 7.5% max.
Ripple & Noise (20MHz band limited) (depending on the type)		20mVp-p min. / 75mVp-p max.
Isolation Voltage (flash tested for 1 second)		1000VDC min.
Test Voltage (50Hz, 10 seconds)		1000 Vpk min.
Resistance (Viso = 500V)		10 $\Omega$ typ.
Switching Frequency	$V_{IN}$ 5V types $V_{IN}$ 12V types	110kHz typ. 140kHz typ.
Package Weight	SIP types DIP types	2.1 g 2.4 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	5V output types all other output types	$+33^\circ\text{C}$ max. $+28^\circ\text{C}$ max.
MTTF <sup>1)</sup> (depending on the type)	$-40^\circ\text{C}$ $+25^\circ\text{C}$ $+85^\circ\text{C}$	184kHrs min. / 2068kHrs max. 154kHrs min. / 1697kHrs max. 129kHrs min. / 1368kHrs max.

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

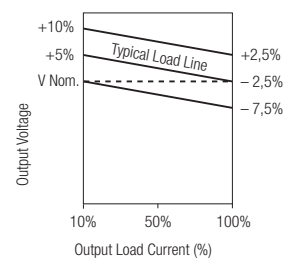
Please contact us, if you need exact parameters for the converter you have selected.

## Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

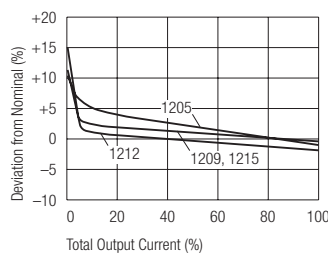
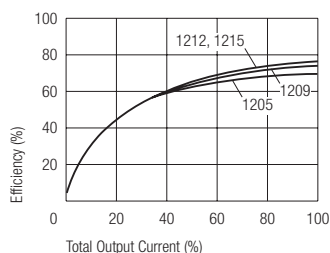
R05A/Bxx



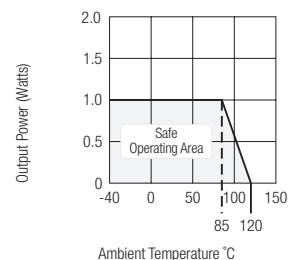
Tolerance Envelope



R12A/Bxx



Temperature Derating Graph



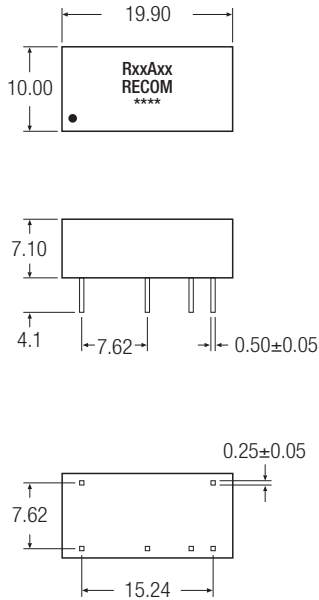
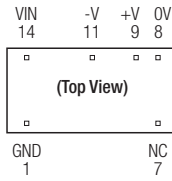
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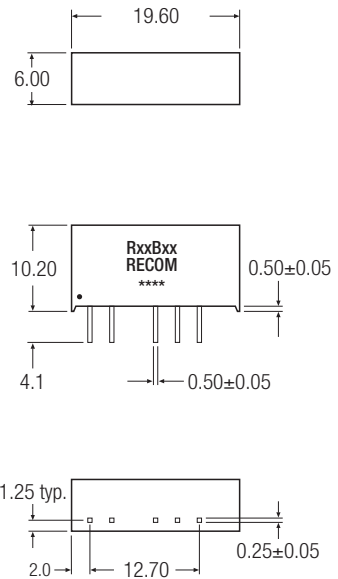
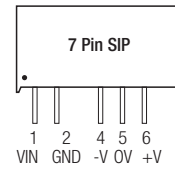
# RECOM

## Package Style and Pinning (mm)

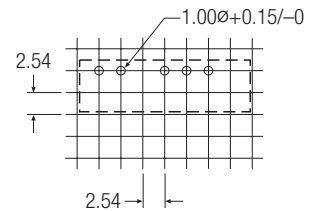
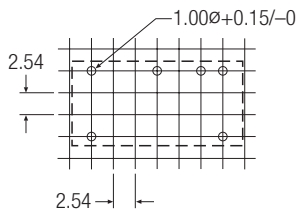
### 14 Pin DIP Package Style



### 7 Pin SIP Package Style



### Recommended Footprint Details



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm