

# EUROLINE - DC/DC-Converter

RxxSSxx Series, 1 Watt, SMD, 1kVDC Isolation (Single Output)

# RECOM

## Features

- Wide Temperature Performance at full 1 Watt Load,  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- 1kVDC Isolation
- Efficiency to 78%
- UL 94V-0 Package Material
- Toroidal Magnetics
- Internal SMD Construction
- 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
R05SS05	5	5	200	294	68	35	SMD 14 Pin
R05SS09	5	9	111	267	75	43	
R05SS12	5	12	83	260	77	42	
R05SS15	5	15	66	256	78	44	
R12SS05	12	5	200	124	67	47	
R12SS09	12	9	111	114	73	77	
R12SS12	12	12	83	113	74	88	
R12SS15	12	15	66	111	75	95	

## 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 (at rated current and $+85^{\circ}\text{C}$ )	600mW
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.

## 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)		30 mA p-p min. to 47 mA p-p max.
Voltage Set Point Accuracy		See Tolerance Envelope
Line Regulation		1.0% min. / 1.2% max. of $V_{IN}$
Load Voltage Regulation (10% load to 100% full load)	5V output types 9V output types 12V output types 15V output types	12.8% min. / 15% max. 8.3% min. / 9% max. 6.8% min. / 7.5% max. 6.3% min. / 7% max.
Ripple & Noise (20MHz band limited), (depending on the type)		38mVp-p min. / 85mVp-p max.
Isolation Voltage (flash tested for 1 second)		1000VDC min.
Test Voltage (50Hz, 10 seconds)		1000 Vpk min.
Resistance ( $V_{iso} = 1000\text{V}$ )		10 G $\Omega$ typ.
Switching Frequency at Full Load (depending on the type)	$V_{IN}$ 5V types $V_{IN}$ 12V types	110kHz typ. 110kHz typ.

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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)

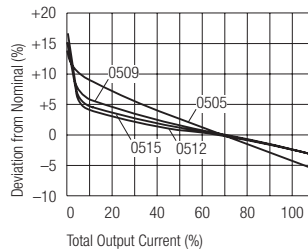
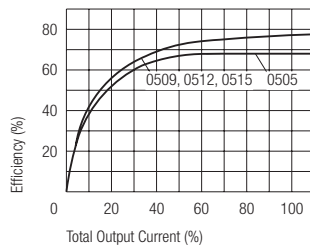
Package Weight	1.21 g	
Operating Temperature Range (all output types)	-40°C min. to +85°C max. (see graph)	
Storage Temperature Range	-55°C min. +125°C max.	
Case Temperature Above Ambient (depending on the type)	5V output types	+53°C max.
	all other output types	+40°C max.
MTTF <sup>1)</sup>	-40°C	302kHrs min. / 2938kHrs max.
	+25°C	252kHrs min. / 2418kHrs max.
	+85°C	212kHrs min. / 1968kHrs max.

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

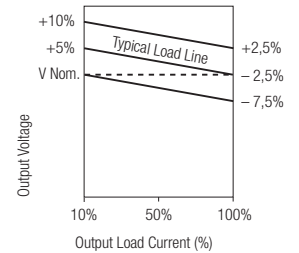
Please contact us, if you need exact parameters for the converter you have selected.

## Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

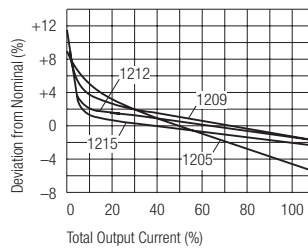
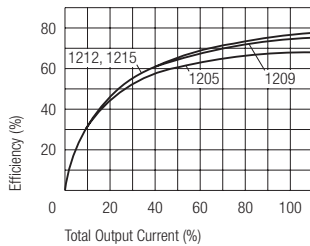
### R05SSxx



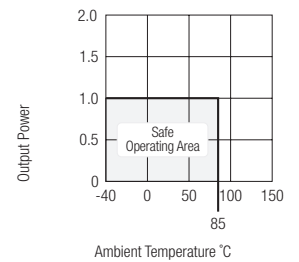
### Tolerance Envelope



### R12SSxx

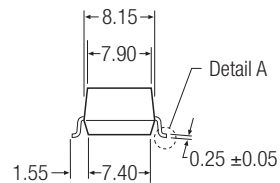
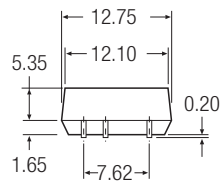
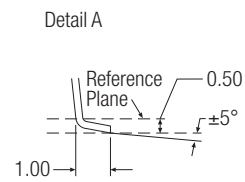
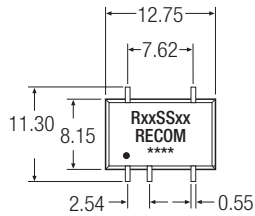
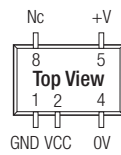


### Temperature Derating Graph

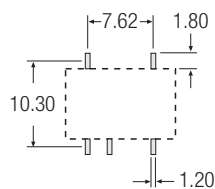


## Package Style and Pinning (mm)

### 10 Pin SMD Package Style



### Recommended Footprint Details



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm