

# EUROLINE - DC/DC-Converter

RxxSDxx Series, 1 Watt, SMD, 1kVDC Isolation (Dual 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
- Internal SMD Construction
- MTTF up to 2.1 Million Hours
- Power Sharing on Dual Output



## 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
R05SD05	5	$\pm 5$	$\pm 100$	290	69	33	
R05SD09	5	$\pm 9$	$\pm 55$	267	75	38	
R05SD12	5	$\pm 12$	$\pm 42$	260	77	44	
R05SD15	5	$\pm 15$	$\pm 33$	256	78	43	SMD
R12SD05	12	$\pm 5$	$\pm 100$	121	69	50	18 Pin
R12SD09	12	$\pm 9$	$\pm 55$	113	74	72	
R12SD12	12	$\pm 12$	$\pm 42$	111	75	89	
R12SD15	12	$\pm 15$	$\pm 33$	110	76	100	

## Absolute Maximum Ratings

Input Voltage $V_{IN}$	5V types 12V types	7V 15V
Short Circuit Duration <sup>1)</sup>		1s
Internal Power Dissipation		550mW
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)

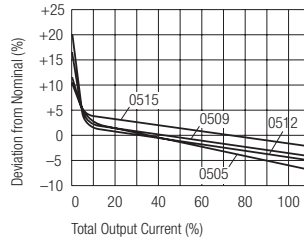
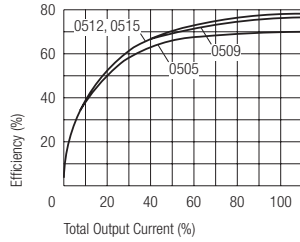
Input Voltage Range $V_{IN}$ (continuous operation)	5V input types 12V input types	4.5VDC min. / 5.5VDC max. 10.8VDC min. / 13.2VDC max.
Reflected Ripple Current (depending on the type)		41 mA p-p min. to 47 mA p-p max.
Voltage Set Point Accuracy		See Tolerance Envelope
Line Regulation		1.0% / 1.2% of $V_{IN}$
Load Voltage Regulation (10% load to rated load)	5V output types 9V output types 12V output types 15V output types	10% min. / 12% max. 6.5% min. / 8.0% max. 6.0% min. / 8.5% max. 6.0% min. / 7.0% max.
Ripple & Noise (20MHz band limited), (depending on the type)		35mVp-p min. / 110mVp-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 $\text{G}\Omega$ min.
Switching Frequency at Full Load	$V_{IN}$ all types	115kHz typ.
Package Weight		1.53 g
Operating Temperature Range (all output types)		$-40^{\circ}\text{C}$ min. to $+85^{\circ}\text{C}$ max. (see graph)
Storage Temperature Range		$-55^{\circ}\text{C}$ min. $+125^{\circ}\text{C}$ max.
Case Temperature above Ambient (depending on the type)	5V output types all other types	$+46^{\circ}\text{C}$ max. $+35^{\circ}\text{C}$ max.
MTTF <sup>2)</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>2)</sup> Calculated using MIL-HDBK-217F with nominal input voltage at full load.

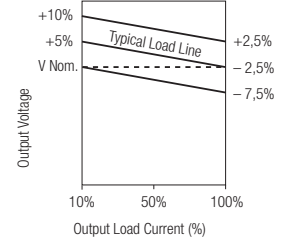
Please contact us, if you need exact parameters for the converter you have selected..

## Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

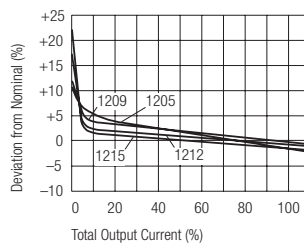
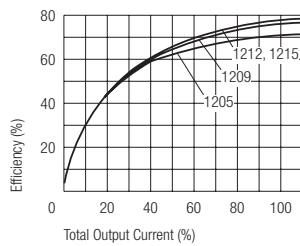
R05SDxx



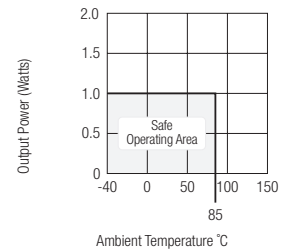
Tolerance Envelope



R12SDxx

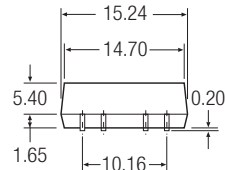
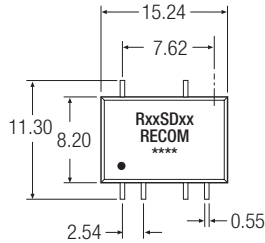
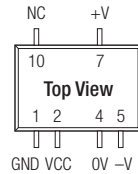


Temperature Derating Graph

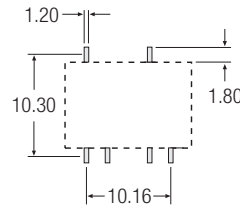


## Package Style and Pinning (mm)

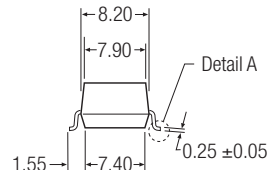
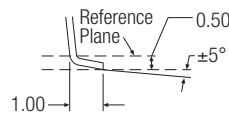
10 Pin SMD Package Style



Recommended Footprint Details



Detail A



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm