

EUROLINE - DC/DC-Converter

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

RECOM

Features

- Wide Temperature Performance at full 1 Watt Load, -40°C to +85°C
- 1kVDC Isolation
- Efficiency to 78%
- UL 94V-O Package Material
- Toroidal Magnetics
- Internal SMD Construction
- MTTF up to 2.9 Million Hours



Selection Guide 5V and 12V input types

Part Number Voltage	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 ¹⁾	1s
Internal Power Dissipation (at rated current and +85°C)	600mW
Lead Temperature (1.5 mm from case for 10 seconds)	300 °C

¹⁾ 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 (Viso = 1000V)		10 GΩ typ.
Switching Frequency at Full Load (depending on the type)	V_{IN} 5V types V_{IN} 12V types	110kHz typ. 110kHz typ.

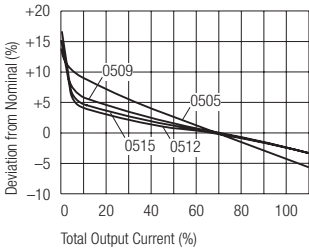
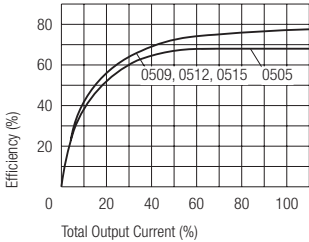
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Electrical Specifications (measured at T _A = 25°C, at nominal input voltage and rated output current unless otherwise specified)		
Package Weight		1.21 g
Operating Temperature Range (all output types)		−40°C min. to +85°C max. (see graph)
Storage Temperature Range		−55°C min. +125°C max.
Case Temperature Above Ambient (depending on the type)	5V output types all other output types	+53°C max. +40°C max.
MTTF ¹⁾	−40°C +25°C +85°C	302kHrs min. / 2938kHrs max. 252kHrs min. / 2418kHrs max. 212kHrs min. / 1968kHrs max.

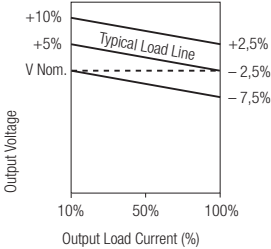
¹⁾. Calculated using MIL-HDBK-217F with nominal input voltage at full load.
Please contact us, if you need exact parameters for the converter you have selected.

Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

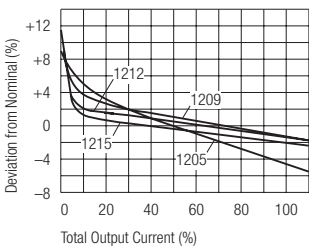
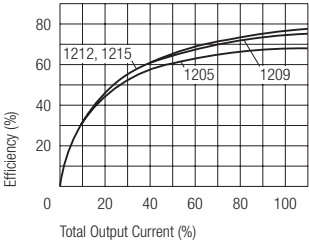
R05SSxx



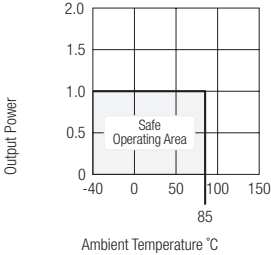
Tolerance Envelope



R12SSxx

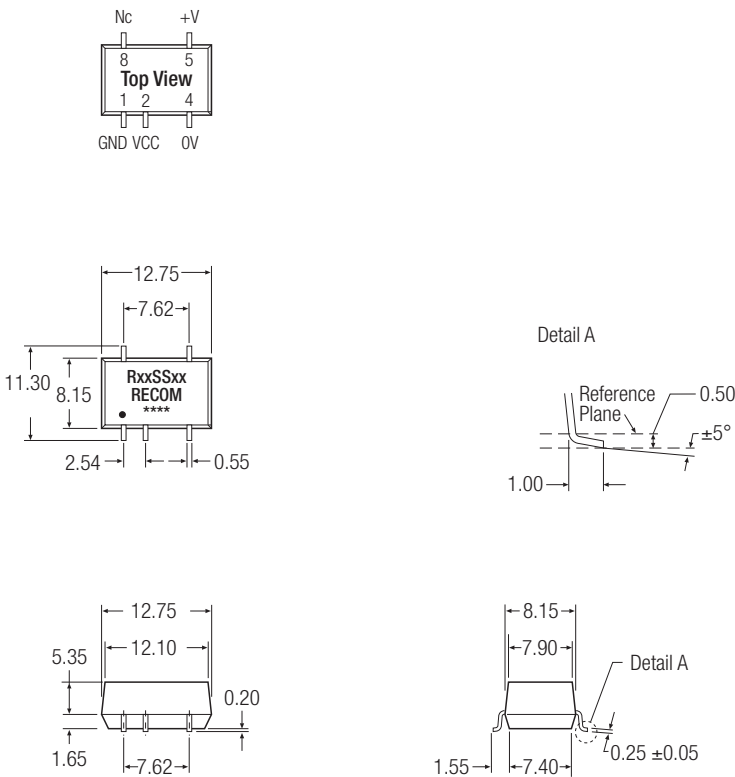


Temperature Derating Graph

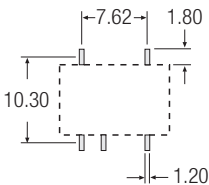


Package Style and Pinning (mm)

10 Pin SMD Package Style



Recommended Footprint Details



XX.X ± 0.5 mm
XX.XX ± 0.25 mm