

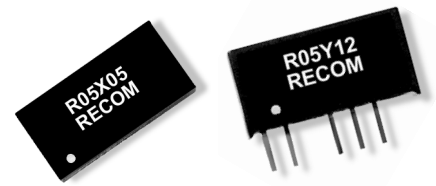
EUROLINE - DC/DC-Converter

RxxX and RxxY Series, 1 Watt, SIP7/DIP14, Regulated / Isolated (Single Output)

RECOM

Features

- 1kVDC Isolation
- Efficiency to 62%
- UL 94V-0 Package Material
- Internal SMD Construction
- Toroidal Magnetics
- Fully Encapsulated
- MTTF up to 2.4 Million Hours
- Output Regulation <1.5%



Selection Guide

Part Number	Output Voltage (VDC)	Output Current (mA)	Power Out (mW)	Package Style
Flash PROM types				
R05X12	12	83	1000	DIP14
R05Y12	12	83	1000	SIP7
R05X13	12.75	78	1000	DIP14
R05Y13	12.75	78	1000	SIP7
5V and 12V input types				
RxxX05	5	100	500	DIP14
RxxX09	9	100	900	
RxxX12	12	83	1000	
RxxX15	15	67	1000	
RxxY05	5	100	500	SIP7
RxxY09	9	100	900	
RxxY12	12	83	1000	
RxxY15	15	67	1000	
24V and 48V input types				
RxxX05	5	100	500	DIP14
RxxX09	9	100	900	
RxxX12	12	83	1000	
RxxX15	15	67	1000	
RxxY05	5	100	500	SIP7
RxxY09	9	100	900	
RxxY12	12	83	1000	
RxxY15	15	67	1000	

Absolute Maximum Ratings Over Operating Free Air Temperature Range

Input Voltage V_{IN}	5V types	7V
	12V types	15V
	24V types	28V
	48V types	54V
Output Power Total		1W
Short Circuit Duration		1s
Maximum Output Voltage Rise Time (after control pin high)		35 μ s
Isolation Voltage (flash tested for 1 second)		1000VDC
Operating Free Air Temperature Range (requires a minimum of 10 mm air space around the component)		0°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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Typical Isolation Capacitance (pF)

Part Number	Output Voltage (V)				
	05	09	12	13	15
R05X/Yxx	28	32	33	31	39
R12X/Yxx	48	63	68	–	69
R24X/Yxx	84	106	132	–	152
R48X/Yxx	54	75	92	–	109

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 types	5V±5%
	12V types	12V±5%
	24V types	24V±5%
	48V types	48V±5%
Load Voltage Regulation (10% load to 100% full load)		0.9% typ. / 1.5% max.
Line Voltage Regulation (depending on the Type)		0.25% / 1.0% of V_{IN}
Output Voltage Accuracy (control pin open circuit)		±5%
Input Reflected Ripple (20MHz band limited)		40mVp-p max.
Output Ripple (20MHz band limited)		60mVp-p max.
Insulation Resistance (at 500VDC)		100M Ω min.
Efficiency (at full load)	5V output types	45% min. / 50% typ.
	9V, 12V and 15V output types	55% min. / 62% typ.
Temperature Drift (V_{OUT})		0.03% per °C max.
Temperature Rise above Ambient (at full load)		8°C max.
Switching Frequency at Full Load (depending on the type)		80kHz typ.
Package Weight	SIP and DIP 5/12/24V types	2.3 g
	SIP and DIP 48V types	2.9 g
MTTF ¹⁾ (depending on the type)	–25°C	165kHrs min. / 2406kHrs max.
	+25°C	135kHrs min. / 1307kHrs max.
	+70°C	69kHrs min. / 144kHrs 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.

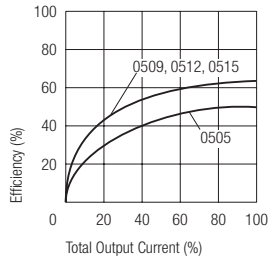
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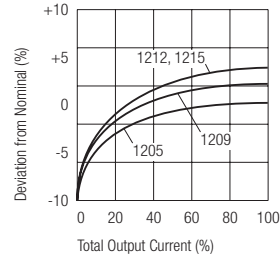
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Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

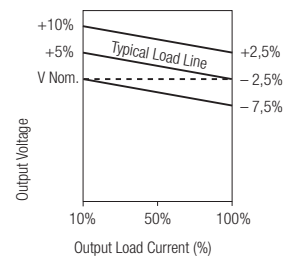
R05Y/Xxx



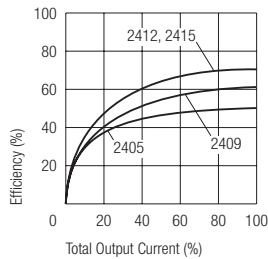
R12Y/Xxx



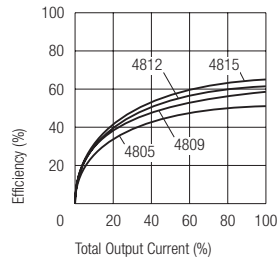
Tolerance Envelope



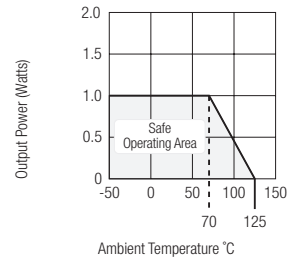
R24Y/Xxx



R48Y/Xxx

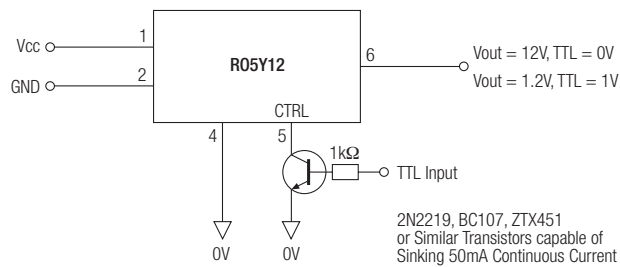


Temperature Derating Graph

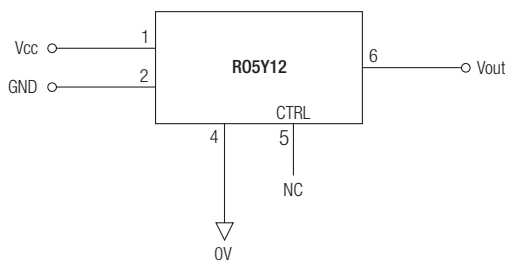


Typical Applications

Flash PROM Programming Voltage Control



Normal Isolated Regulated Output



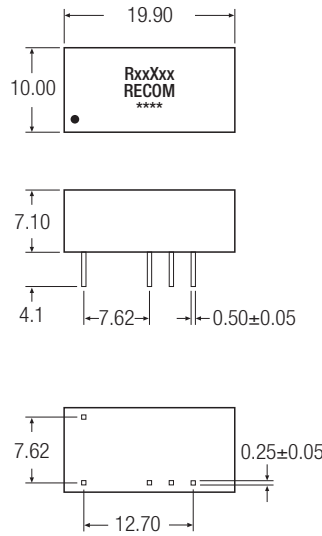
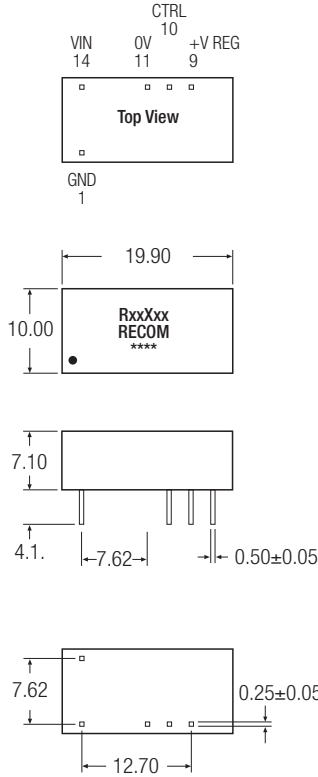
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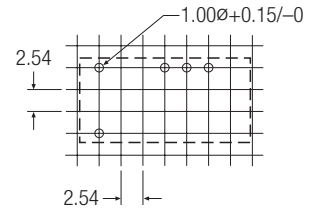
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Package Style and Pinning (mm)

14 Pin DIP Package Style

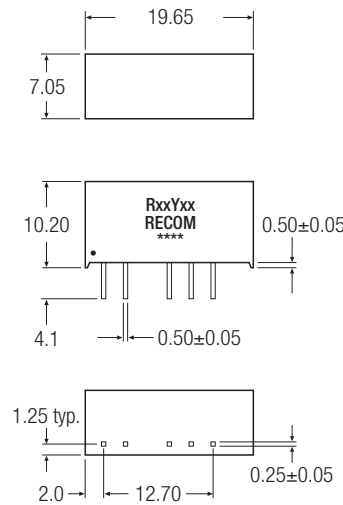
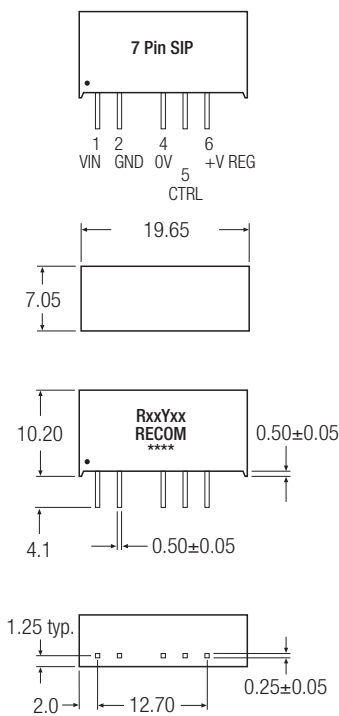


Recommended Footprint Details



XX.X ± 0.5 mm
XX.XX ± 0.25 mm

7 Pin SIP Package Style



Recommended Footprint Details

