

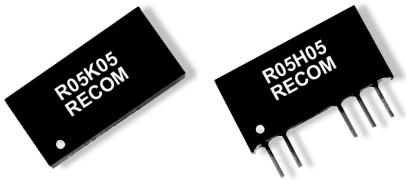
EUROLINE - DC/DC-Converter

RxxG/H and RxxJ/K Series, 1 Watt, DIP14/SIP7, 3kVDC Isolation (Single & Dual Output)

RECOM

Features

- Wide Temperature Performance at full 1 Watt Load, -40°C to +85°C
- 3kVDC Isolation
- Efficiency to 80%
- UL 94V-O Package Material
- Internal SMD Construction
- MTTF up to 2.9 Million Hours
- Power Sharing on Dual Output



Selection Guide 5V, 12 V, 24V and 48V input types

Part Number	Nom. Input Voltage (VDC)	Rated Output Voltage (VDC)	Rated Output Current (mA)	Efficiency (%)	Isolation Capacitance (pF)	Package Style
Single Output Types						
RxxJ05	5/12	5	200	68	23	DIP14
RxxJ09	5/12	9	111	75	30	
RxxJ12	5/12	12	84	77	26	
RxxJ15	5/12	15	67	78	27	
RxxJ05	24/48	5	200	70	33/48	DIP14
RxxJ09	24/48	9	111	80/70	40/59	
RxxJ12	24/48	12	84	80/70	55/70	
RxxJ15	24/48	15	67	80/70	70/81	
RxxK05	5/12	5	200	68	23	SIP7
RxxK09	5/12	9	111	75	30	
RxxK12	5/12	12	84	77	26	
RxxK15	5/12	15	67	78	27	
RxxK05	24/48	5	200	70	33/48	SIP7
RxxK09	24/48	9	111	80/70	40/59	
RxxK12	24/48	12	84	80/70	55/70	
RxxK15	24/48	15	67	80/70	70/81	
Dual Output Types						
RxxG05	5/12	±5	±100	71	27	DIP14
RxxG09	5/12	±9	±55	74	35	
RxxG12	5/12	±12	±42	75	42	
RxxG15	5/12	±15	±33	76	41	
RxxG05	24/48	±5	±100	80/70	45	DIP14
RxxG09	24/48	±9	±55	70	52/58	
RxxG12	24/48	±12	±42	70	65/68	
RxxG15	24/48	±15	±33	70	70/75	
RxxH05	5/12	±5	±100	71	27	SIP7
RxxH09	5/12	±9	±55	74	35	
RxxH12	5/12	±12	±42	75	42	
RxxH15	5/12	±15	±33	76	41	
RxxH05	24/48	±5	±100	70/80	45	SIP7
RxxH09	24/48	±9	±55	70	52/58	
RxxH12	24/48	±12	±42	70	65/68	
RxxH15	24/48	±15	±33	70	70/75	

Absolute Maximum Ratings

Input Voltage V_{IN}	5V types 12V types 24V types 48V types	7V typ. 15V typ. 24V typ. 48V typ.
Short Circuit Duration ¹⁾		1s
Internal Power Dissipation		560mW
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.

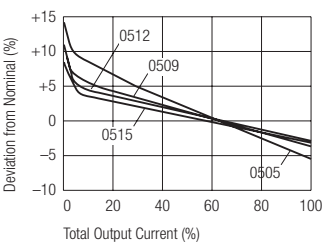
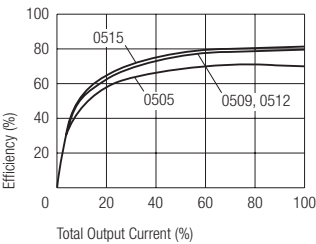
Electrical Specifications (measured at $T_A = 25^{\circ}\text{C}$, at nominal input voltage and rated output current unless otherwise specified)

Input Voltage Range V_{IN} (continuous operation)	5V input types 12V input types 24V input types 48V input types	4.5VDC min./ 5.5VDC max. 10.8VDC min./ 13.2VDC max. 28VDC max. 54VDC max.
Reflected Ripple Current (depending on the type)		20 mA p-p min. to 40 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 100% full load)	single output types dual output types	6.7% min. / 15% max. 6.8% min. / 10% max.
Ripple & Noise (20MHz band limited)	single output types dual output types	32mVp-p min. / 80mVp-p max. 24mVp-p min. / 40mVp-p max.
Isolation Voltage (for 1 minute)		3000VDC min.
Test Voltage (50Hz, 10 seconds)		3000 Vpk min.
Resistance ($V_{iso} = 1000V$)		10 G Ω typ.
Switching Frequency at Full Load (depending on the type)	V_{IN} 5V output types V_{IN} 12V output types V_{IN} 24V output types V_{IN} 48V output types	120kHz min. / 135kHz max. 150kHz min. / 170kHz max. 150kHz max. 150kHz max.
Package Weight		2.11 g
Operating Temperature Range (all output types)		-40°C min. to +85°C max. (see graph)
Storage Temperature Range		-50°C min. +125°C max.
Case Temperature Above Ambient (depending on the type)	5V output types all other output types	+28°C max. +25°C max.
MTTF ¹⁾ (depending on the type)	-40°C, single output types +25°C, single output types +85°C, single output types -40°C, dual output types +25°C, dual output types +85°C, dual output types	303kHrs min. / 2938kHrs max. 252kHrs min. / 2414kHrs max. 212kHrs min. / 1961kHrs max. 185kHrs min. / 2068kHrs max. 154kHrs min. / 1697kHrs max. 130kHrs min. / 1368kHrs max.

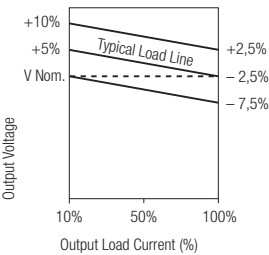
¹⁾ Calculated using MIL-HDBK-217F with nominal input voltage at full load.
Please contact us, if you need exact parameters for the converter you have selected.

Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

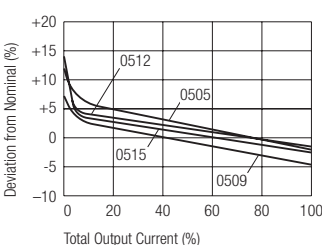
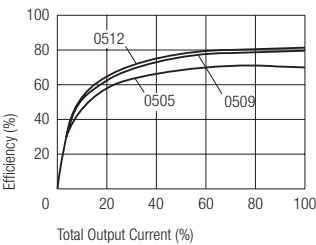
R05G/H/J/Kxx Single Output Types



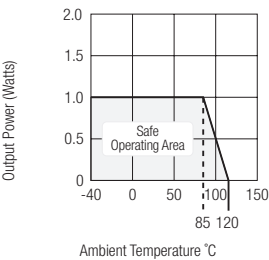
Tolerance Envelope



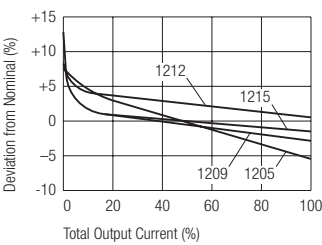
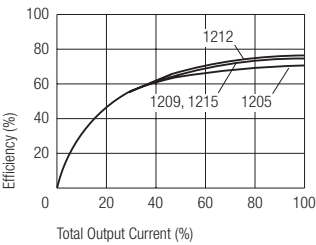
R05G/H/J/Kxx Dual Output Types



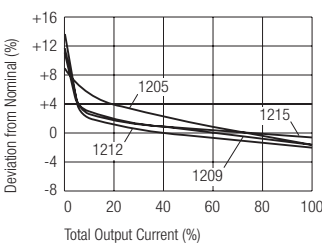
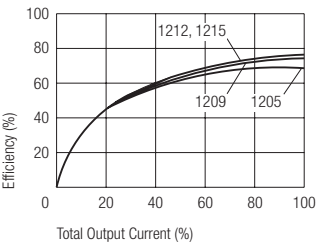
Temperature Derating Graph



R012G/H/J/Kxx Single Output Types

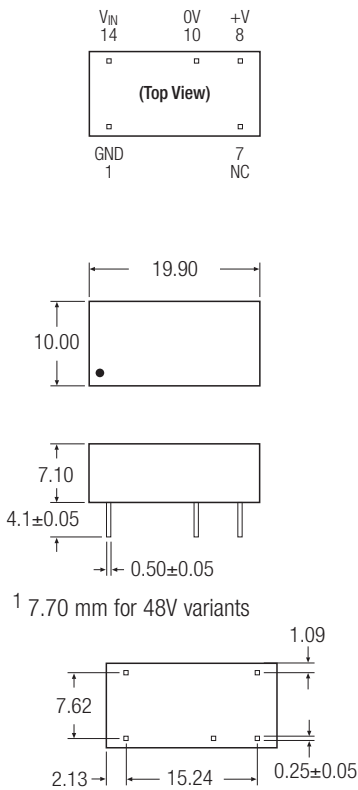


R012G/H/J/Kxx Dual Output Types

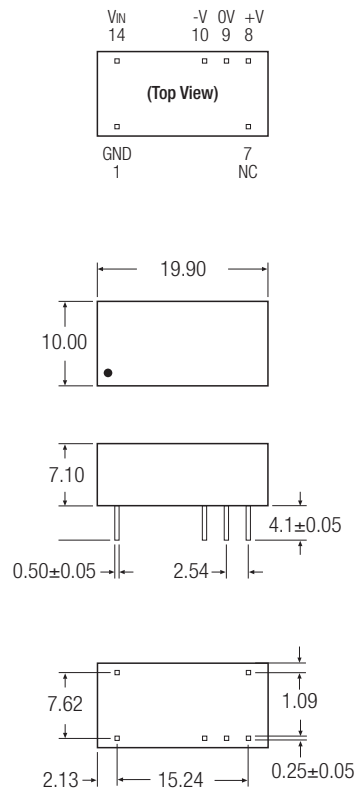


Package Style and Pinning (mm)

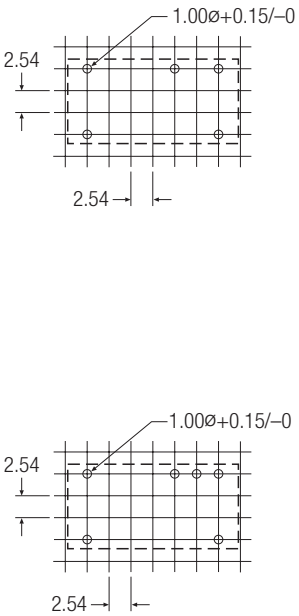
14 Pin, Single Output



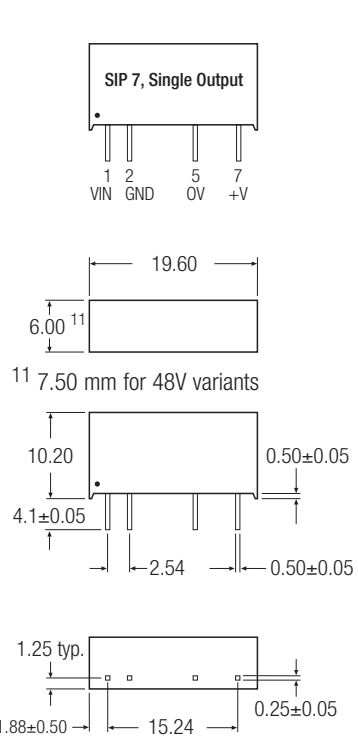
14 Pin, Dual Output



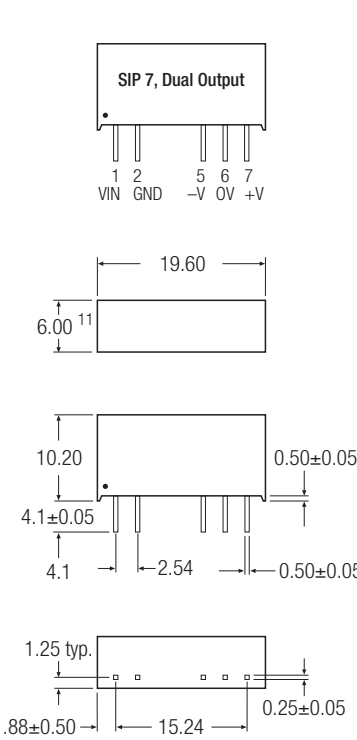
Recommended Footprint Details



7 Pin, Single Output



7 Pin, Dual Output



Recommended Footprint Details

