

EUROLINE - DC/DC-Converter

RxxSDxx Series, 1 Watt, SMD, 1kVDC Isolation (Dual Output)

RECOM

Features

- Wide Temperature Performance at full 1 Watt Load, -40°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	± 5	± 100	290	69	33	SMD 18 Pin
R05SD09	5	± 9	± 55	267	75	38	
R05SD12	5	± 12	± 42	260	77	44	
R05SD15	5	± 15	± 33	256	78	43	
R12SD05	12	± 5	± 100	121	69	50	
R12SD09	12	± 9	± 55	113	74	72	
R12SD12	12	± 12	± 42	111	75	89	
R12SD15	12	± 15	± 33	110	76	100	

Absolute Maximum Ratings

Input Voltage V_{IN}	5V types 12V types	7V 15V
Short Circuit Duration ¹⁾		1s
Internal Power Dissipation		550mW
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)		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 ($V_{iso} = 1000V$)		10 G Ω min.
Switching Frequency at Full Load	V_{IN} all types	115kHz typ.
Package Weight		1.53 g
Operating Temperature Range (all output types)		-40°C min. to $+85^{\circ}\text{C}$ max. (see graph)
Storage Temperature Range		-55°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 ²⁾ (depending on the type)	-40°C $+25^{\circ}\text{C}$ $+85^{\circ}\text{C}$	184kHrs min. / 2068kHrs max. 154kHrs min. / 1697kHrs max. 129kHrs min. / 1368kHrs max.

²⁾ 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..

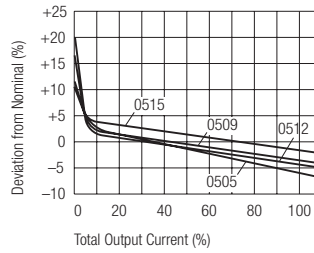
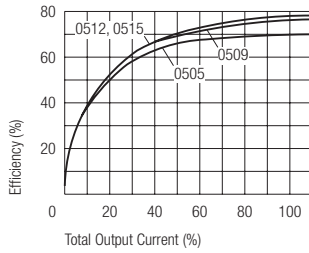
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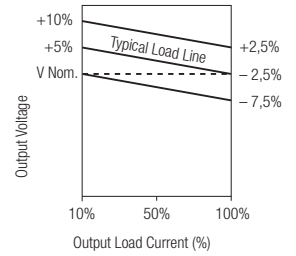
RECOM

Typical Characteristics, Tolerance Envelope and Temperature Derating Graph

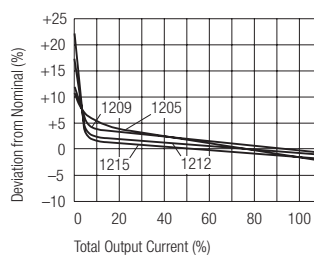
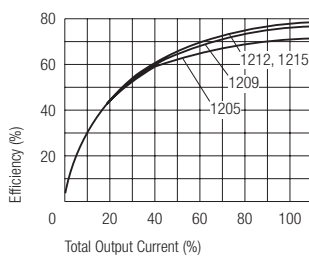
R05SDxx



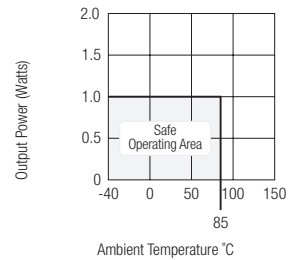
Tolerance Envelope



R12SDxx

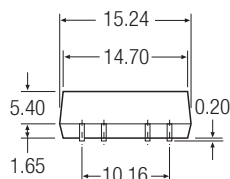
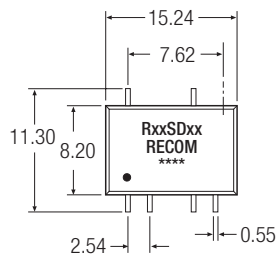
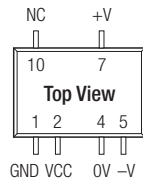


Temperature Derating Graph

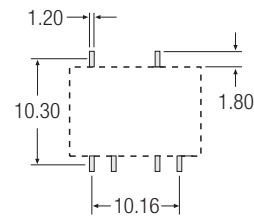


Package Style and Pinning (mm)

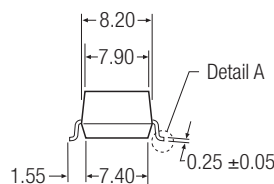
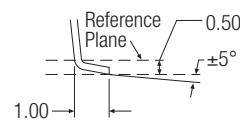
10 Pin SMD Package Style



Recommended Footprint Details



Detail A



XX.X ± 0.5 mm
XX.XX ± 0.25 mm