

Features

Unregulated Converters

- Twin Independent Outputs
- Output/Output Isolation 1kVDC
- Power Sharing on Outputs
- Input/Output Isolation 1kVDC
- No Heatsink Required
- UL94V-0 Package Material
- Toroidal Magnetics
- No Extern. Components Required
- Custom Solutions Available
- Efficiency to 84%

ECONOLINE

DC/DC-Converter

RU Series

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (V1VDC)	Output Voltage (V2VDC)	Output Current (mA)	Efficiency (%)
SIP 7	(VDC)	(V1VDC)	(V2VDC)	(mA)	(%)
RU-xx1.81.8	1.8, 3.3, 5, 9, 12, 24	1.8	1.8	278/278	70
RU-xx3.33.3	1.8, 3.3, 5, 9, 12, 24	3.3	3.3	152/152	70
RU-xx053.3	1.8, 3.3, 5, 9, 12, 24	5	3.3	100/152	70
RU-xx0505	1.8, 3.3, 5, 9, 12, 24	5	5	100/100	70-78
RU-xx0509	1.8, 3.3, 5, 9, 12, 24	5	9	100/55	75
RU-xx0512	1.8, 3.3, 5, 9, 12, 24	5	12	100/42	75
RU-xx0515	1.8, 3.3, 5, 9, 12, 24	5	15	100/33	78
RU-xx0909	1.8, 3.3, 5, 9, 12, 24	9	9	55/55	75-80
RU-xx1212	1.8, 3.3, 5, 9, 12, 24	12	12	42/42	78-80
RU-xx1515	1.8, 3.3, 5, 9, 12, 24	15	15	33/33	80-82
RU-xx2424	1.8, 3.3, 5, 9, 12, 24	24	24	21/21	80-84

xx = Input Voltage

Specifications (Core Operating Area)

Input Voltage Range	±10%	
Output Voltage Accuracy	±5%	
Line Voltage Regulation	1.2%/1% of Vin max.	
Load Voltage Regulation (10% to 100% full load)	1.8V, 3.3V output types 5V output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.
Output Ripple and Noise (20MHz limited)	75mVp-p max.	
Operating Frequency	50kHz min. / 100kHz typ. / 105kHz max.	
Efficiency at Full Load	70% min. / 80% typ.	
No Load Power Consumption	87mW min. / 130mW typ. / 190mW max.	
Isolation Voltage ¹⁾	(tested for 1 second)	1.000VDC min.
Rated Working Voltage ¹⁾	(long term isolation)	see Application Notes
Isolation Capacitance	20pF min. / 94pF max.	
Isolation Resistance	10 GΩ min.	
Short Circuit Protection	1 Second	
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	MSL Level 1	95% RH
Package Weight	2.7g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 1012 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F 151 x 10 ³ hours

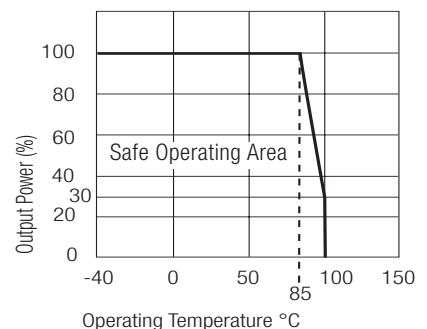
¹⁾ Input/Output and Output V1/Output V2

1 Watt SIP7 Isolated Dual Output



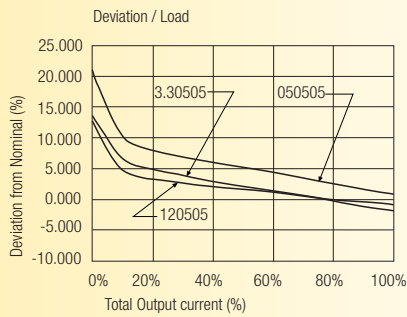
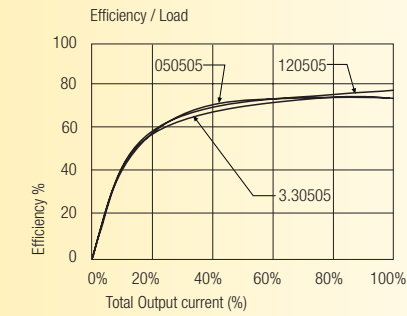
RECOM

Derating-Graph (Ambient Temperature)

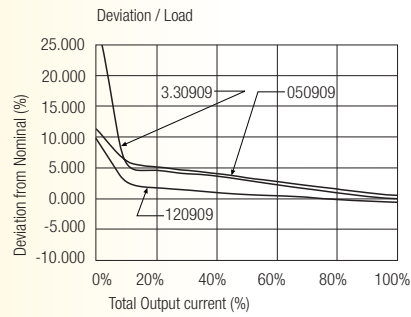
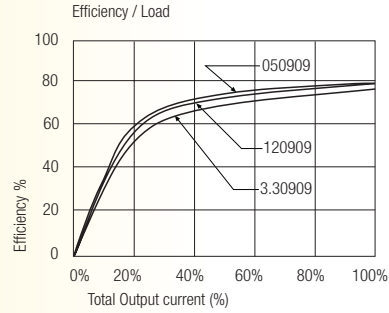


Typical Characteristics

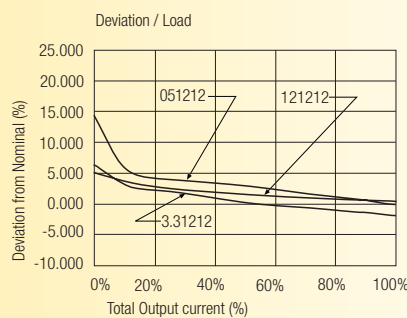
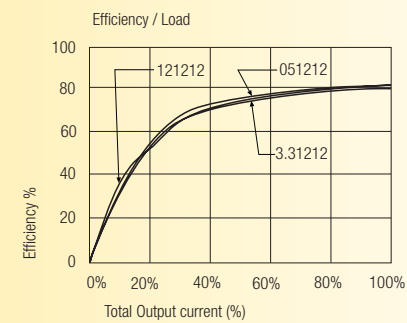
RU-xx0505



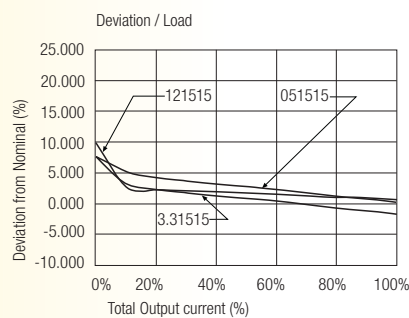
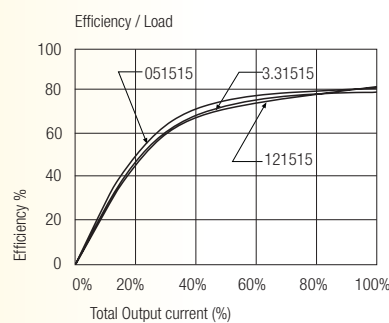
RU-xx0909



RU-xx1212

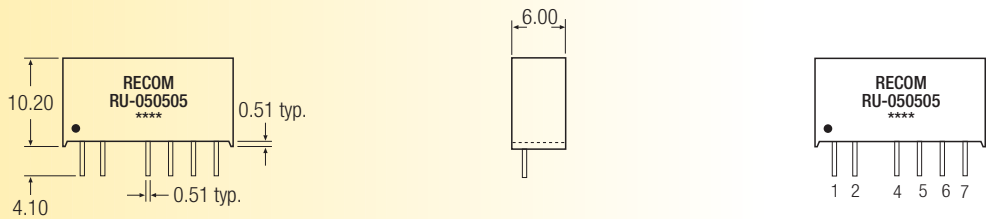


RU-xx1515

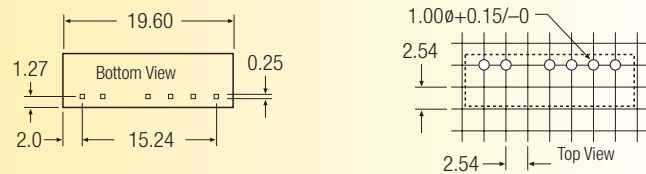


Package Style and Pinning (mm)

7 PIN SIP Package



Recommended Footprint Details



Pin Connections

Pin #	Single
1	+Vin
2	-Vin
4	+Vout 1
5	-Vout 1
6	+Vout 2
7	-Vout 2

XX.X ± 0.5 mm
XX.XX ± 0.25 mm