

Features

Unregulated Converters

- Safety standards and approvals: EN 60950 certified, rated for 250VAC (LVD test report)
- UL-60950-1 / CSA C22.2 certified
- 6kVDC Isolation
- UL94V-0 Package Material
- Internal SMD Construction
- Fully Encapsulated
- Efficiency to 82%

ECONOLINE

DC/DC-Converter

RV Series

Selection Guide

| Part Number | Input Voltage (VDC) | Rated Output Voltage (VDC) | Output Current Full Load (mA) |
|-----------------|-----------------------|----------------------------|-------------------------------|
| DIP24 Miniature | | | |
| RV-xx3.3S | 3.3, 5, 9, 12, 15, 24 | 3.3 | 600 |
| RV-xx05S | 3.3, 5, 9, 12, 15, 24 | 5 | 400 |
| RV-xx09S | 3.3, 5, 9, 12, 15, 24 | 9 | 222 |
| RV-xx12S | 3.3, 5, 9, 12, 15, 24 | 12 | 167 |
| RV-xx15S | 3.3, 5, 9, 12, 15, 24 | 15 | 133 |
| RV-xx24S | 3.3, 5, 9, 12, 15, 24 | 24 | 83 |
| RV-xx3.3D | 3.3, 5, 12, 15, 24 | ±3.3 | ±300 |
| RV-xx05D | 3.3, 5, 12, 15, 24 | ±5 | ±200 |
| RV-xx09D | 3.3, 5, 12, 15, 24 | ±9 | ±111 |
| RV-xx12D | 3.3, 5, 12, 15, 24 | ±12 | ±83 |
| RV-xx15D | 3.3, 5, 12, 15, 24 | ±15 | ±67 |
| RV-xx24D | 3.3, 5, 12, 15, 24 | ±24 | ±42 |

xx = Input Voltage Range

Description

The RV Series of DC/DC Converters are fully certified to EN 60950: 2000. This makes them ideal for all Telecom and safety applications where approved isolation is required and UL-60950-1 / CSA C22.2.

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) | 3.3V output types | 20% max. |
| | 5V output type | 15% max. |
| | 9V, 12V, 15V, 24V output types | 10% max. |
| Output Ripple and Noise (20MHz limited) | 200mVp-p max. | |
| Operating Frequency | 20kHz min. / 50kHz typ. / 85kHz max. | |
| Efficiency at Full Load | 70% min. / 75% typ. | |
| No Load Power Consumption | 282mW min. / 338mW typ. / 400mW max. | |
| Isolation Voltage (tested for 1 second) | 6.000VDC min. | |
| Rated Working Voltage (long term isolation) | see Application Notes | |
| Isolation Capacitance | 2pF min. / 12pF max. | |
| Isolation Resistance | 15 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 | 9g | |
| MTBF (+25°C) | Detailed Information see Application Notes chapter "MTBF" using MIL-HDBK 217F | 1154 x 10 ³ hours |
| (+85°C) | | 168 x 10 ³ hours |

2 Watt DIP24 Miniature Single & Dual Output



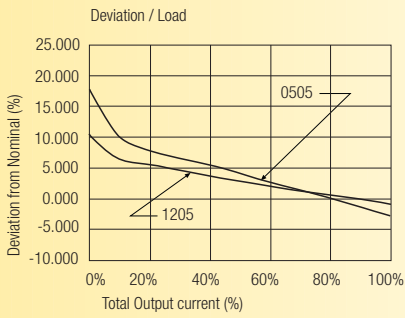
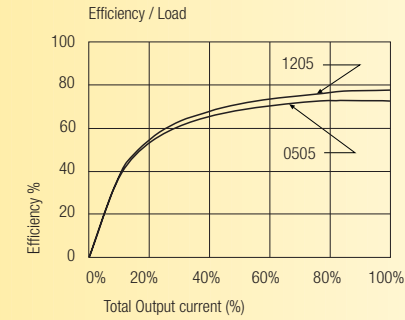
RECOM

Derating-Graph (Ambient Temperature)

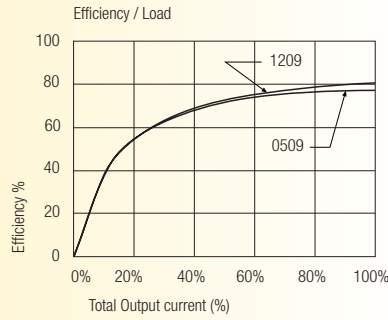


Typical Characteristics

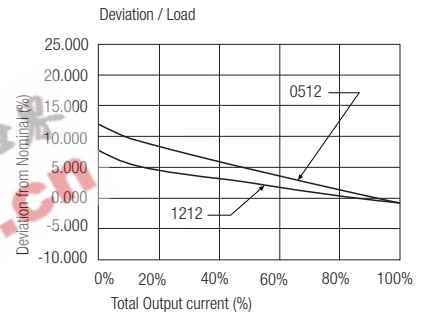
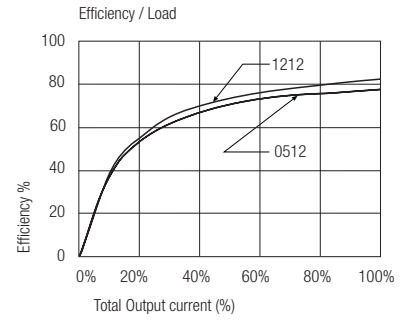
RV-xx05S



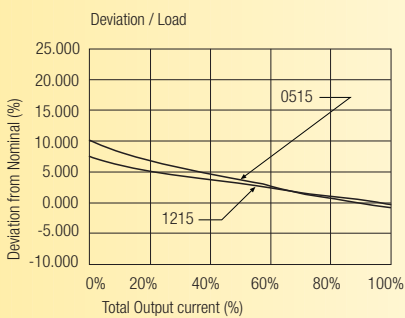
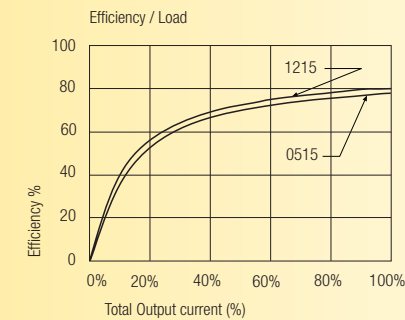
RV-xx09S



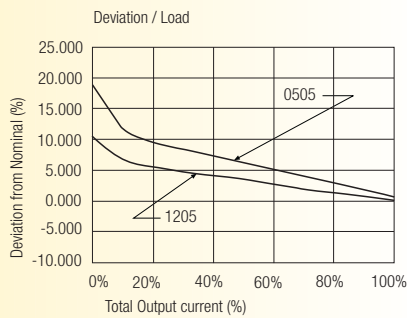
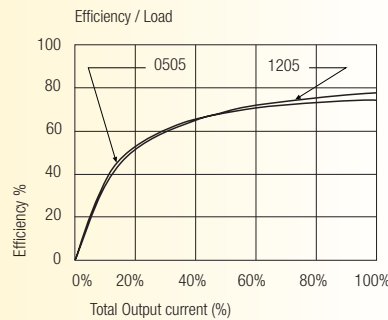
RV-xx12S



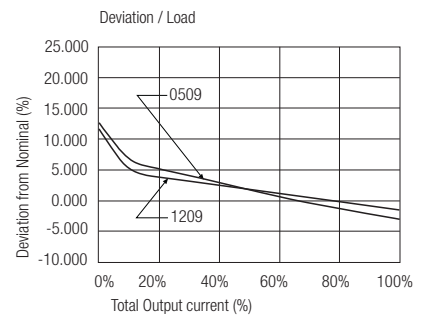
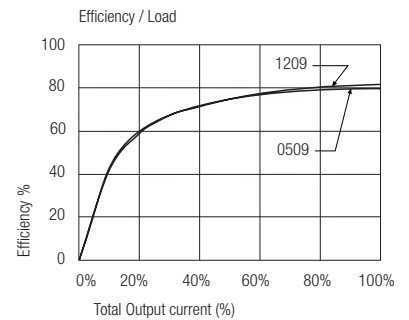
RV-xx15S



RV-xx05D

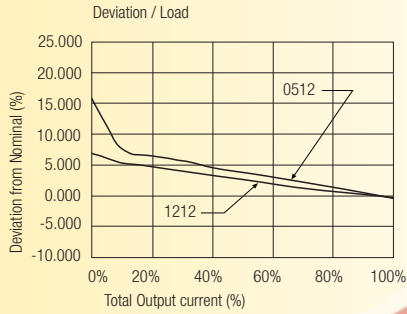
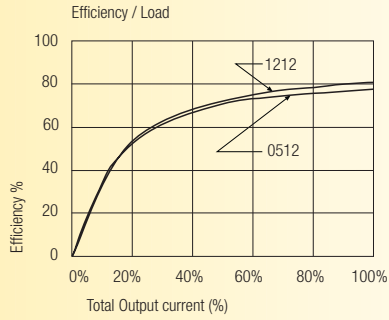


RV-xx09D

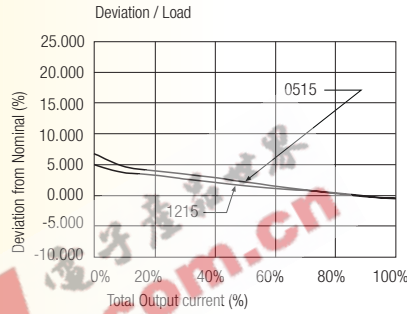
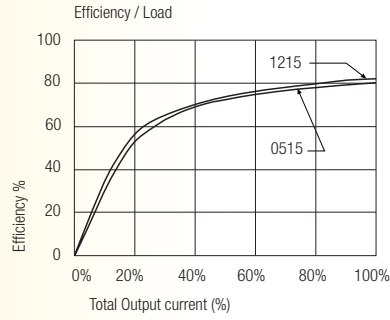


Typical Characteristics

RV-xx12D

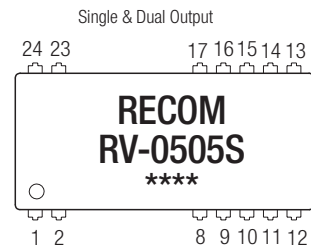
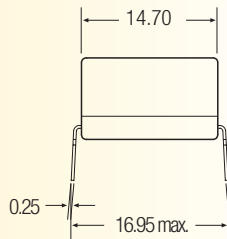
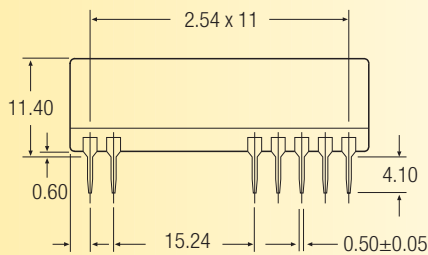


RV-xx15D

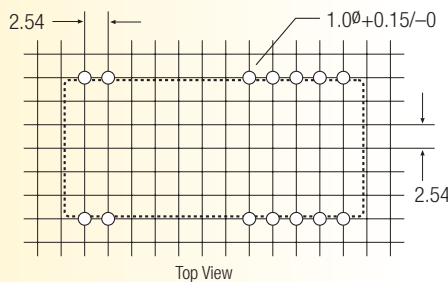
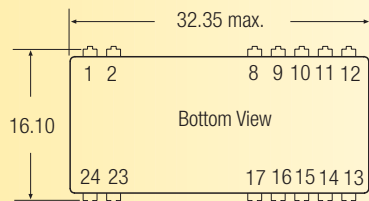


Package Style and Pinning (mm)

24 PIN DIP Miniature Package Style



Recommended Footprint Details



Pin Connections

| Pin # | Single |
|--------------------|--------|
| 1 | +Vin |
| 2 | -Vin |
| 8, 9, 11, 14, | NC |
| 10 & 15 | -Vout |
| 12 & 13 | +Vout |
| 16, 17, 23 & 24 | NC |
| NC = No Connection | |

Pin Connections

| Pin # | Dual |
|--------------------|-------|
| 1 | +Vin |
| 2 | -Vin |
| 8 & 17 | -Vout |
| 9, 11, 14, | NC |
| 16, 23 & 24 | NC |
| 10 & 15 | Com |
| 12 & 13 | +Vout |
| NC = No Connection | |

XX.X ± 0.5 mm
XX.XX ± 0.25 mm