

Features

Regulated Converters

- Internal SMD Technology
- 1kVDC Isolation
- Short Circuit Protection: Current Limit
- UL94V-0 Package Material
- Regulated Output
- No External Components Required
- Efficiency to 63%

ECONOLINE

DC/DC-Converter

RY/S_DCP Series

Selection Guide

| Part Number | Input Voltage | Output Voltage | Output Current | Input Current Full Load | Input Current No Load | Efficiency |
|----------------|---------------|----------------|----------------|-------------------------|-----------------------|------------|
| SIP 7 | (VDC) | (VDC) | (mA) | (mA) | | (%) |
| RY-0505SCP/DCP | 5 | 5/±5 | 200/±100 | 350 | 20 | 57 |
| RY-0512SCP/DCP | 5 | 12/±12 | 84/±42 | 330 | 32 | 61 |
| RY-0515SCP/DCP | 5 | 15/±15 | 67/±34 | 322 | 32 | 62 |
| RY-1205SCP/DCP | 12 | 5/±5 | 200/±100 | 141 | 10 | 59 |
| RY-1212SCP/DCP | 12 | 12/±12 | 84/±42 | 134 | 15 | 62 |
| RY-1515SCP/DCP | 12 | 15/±15 | 67/±34 | 132 | 15 | 63 |
| RY-2405SCP/DCP | 24 | 5/±5 | 200/±100 | 67 | 6 | 62 |
| RY-2412SCP/DCP | 24 | 12/±12 | 84/±42 | 66 | 6 | 63 |
| RY-2415SCP/DCP | 24 | 15/±15 | 67/±34 | 66 | 6 | 63 |

xx = Input Voltage

Description

These converters are designed to offer short circuit protected outputs in industrial standard 1 Watt package for the temperature range -25°C to +70°C.

The Single-output-converters also offer a Remote-On-Off pin for external control of the output voltage by standard TTL-open-collector-port or similar. For details regarding this feature please refer to our RY-series.

Specifications (Core Operating Area)

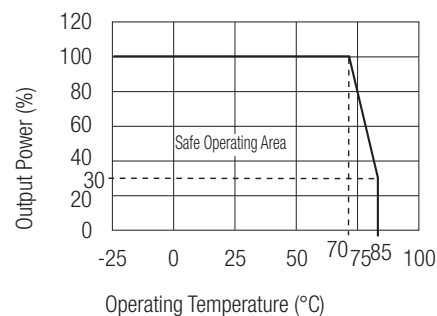
| | | |
|---|---|--|
| Input Voltage Range | ±10% | |
| Output Voltage Accuracy | ±2% | |
| Line Voltage Regulation | ±0.5% max. | |
| Load Voltage Regulation (10% to 100% full load) | ±0.5% max. | |
| Output Ripple and Noise (20MHz limited) | 100mVp-p max. | |
| Operating Frequency | 100kHz max. | |
| Efficiency at Full Load | 60% typ. | |
| Isolation Voltage | (tested for 1 second) | 1.000VDC min. |
| Rated Working Voltage | (long term isolation) | see Application Notes |
| Isolation Capacitance | 20pF max. | |
| Isolation Resistance | 1 GΩ min. | |
| Short Circuit Protection | continuous | |
| Temperature Coefficient | 0.03%/°C | |
| Operating Temperature Range (free air convection) | -25°C to +70°C (see Graph) | |
| Storage Temperature Range | -55°C to +100°C | |
| Relative Humidity | MSL Level 1 | 95% RH |
| Package Weight | 2.9g | |
| MTBF (+25°C) | } Detailed Information see Application Notes chapter "MTBF" | using MIL-HDBK 217F 1023 x 10 ³ hours |
| (+70°C) | | using MIL-HDBK 217F 170 x 10 ³ hours |

1 Watt SIP7 Single & Dual Output



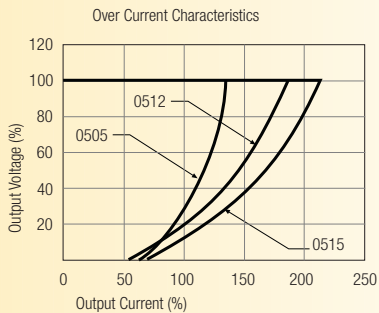
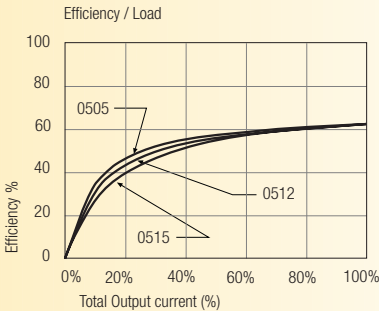
RECOM

Derating-Graph (Ambient Temperature)

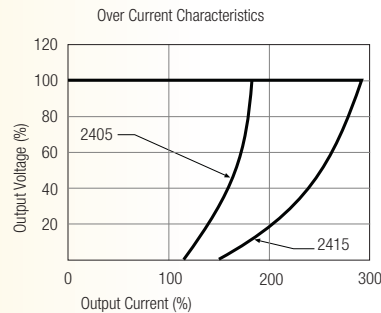
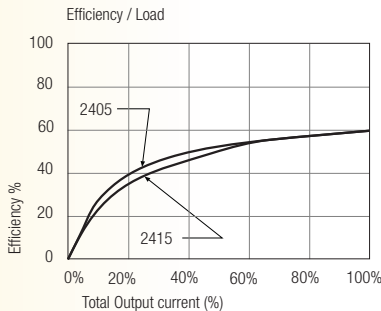


Typical Characteristics

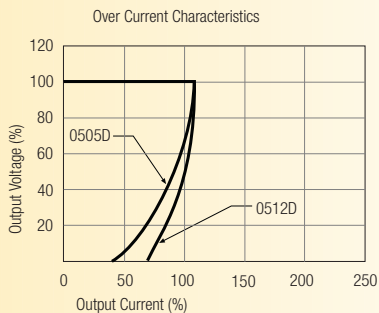
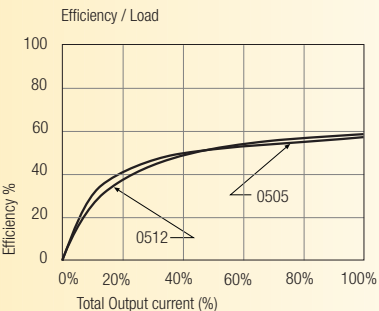
RY-05xxSCP



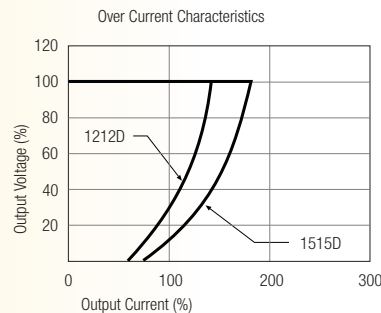
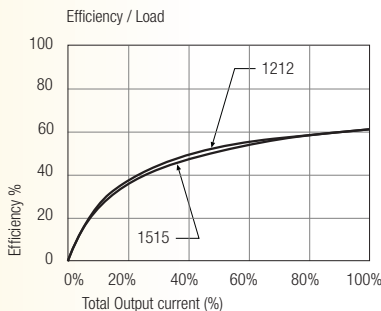
RY-24xxSCP



RY-05xxDCP

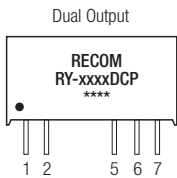
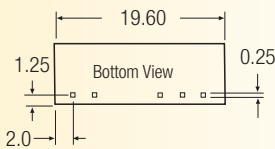
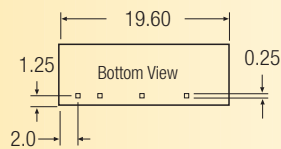
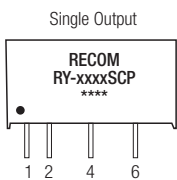
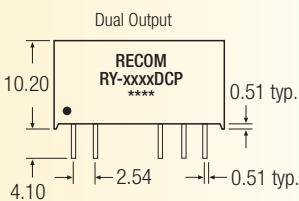
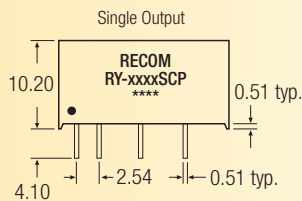


RY-1212_1515DCP

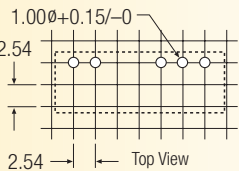
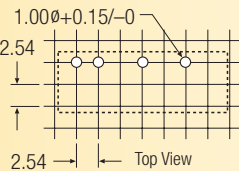


Package Style and Pinning (mm)

7 PIN SIP Package



Recommended Footprint Details



Pin Connections

| Pin # | Single | Dual |
|-------|--------|--------|
| 1 | +Vin | +Vin |
| 2 | -Vin | -Vin |
| 4 | -Vout | No Pin |
| 5 | No Pin | -Vout |
| 6 | +Vout | Com |
| 7 | No Pin | +Vout |

XX.X ± 0.5 mm
XX.XX ± 0.25 mm