

POWERLINE - DC/DC-Converter

EW-Ser., 5W, 1.6 kV Isolation, 4:1 Wide Input Range & Regulated (Single & Dual Output)

RECOM

Features

- 4:1 Input Range
- Pi Input Filter
- Short Circuit Protection with Autorecovery
- Efficiency up to 81%
- Six-Sided Shield
- Operating Temperature Range -25°C to +71°C
- 200kHz Switching Frequency
- Low Profile, 9.5mm Height
- 1600 VDC Isolation Voltage
- MTBF 1.011 x 10⁶ Hours
- 2 Year Warranty
- Option to „M2“ Operating Temperature -40°C to +71°C
- International Safety Standard Approvals
- UL 1950 Component Recognised



Selection Guide 24V and 48V Input Types

| Part Number | Input Range | Output Voltage | Output Current | Efficiency (%) |
|--------------|-------------|----------------|----------------|----------------|
| RP05-2405SEW | 9-36 VDC | 5 VDC | 1000 mA | 75 |
| RP05-2412SEW | 9-36 VDC | 12 VDC | 470 mA | 80 |
| RP05-2415SEW | 9-36 VDC | 15 VDC | 400 mA | 80 |
| RP05-2405DEW | 9-36 VDC | ±5V DC | ±500 mA | 74 |
| RP05-2412DEW | 9-36 VDC | ±12 VDC | ±230 mA | 80 |
| RP05-2415DEW | 9-36 VDC | ±15 VDC | ±190 mA | 80 |
| RP05-4805SEW | 18-75 VDC | 5 VDC | 1000 mA | 74 |
| RP05-4812SEW | 18-75 VDC | 12 VDC | 470 mA | 81 |
| RP05-4815SEW | 18-75 VDC | 15 VDC | 400 mA | 81 |
| RP05-4805DEW | 18-75 VDC | ±5 VDC | ±500 mA | 74 |
| RP05-4812DEW | 18-75 VDC | ±12 VDC | ±230 mA | 78 |
| RP05-4815DEW | 18-75 VDC | ±15 VDC | ±190 mA | 79 |

Specials

| | | | | |
|-------------|----------|--------|-------|---|
| RP05-BD36 | 9-32 VDC | ±5 VDC | 1.5 A | - |
| RP05-4824DE | 8-40 VDC | ±5 VDC | 1.5 A | - |

Maximum Capacitive Load

| | |
|--------------|--------|
| RP05-xx05SEW | 1700µF |
| RP05-xx12SEW | 290µF |
| RP05-xx15SAW | 188µF |
| RP05-xx05DAW | ±850µF |
| RP05-xx12DAW | ±140µF |
| RP05-xx15DAW | ±47µF |

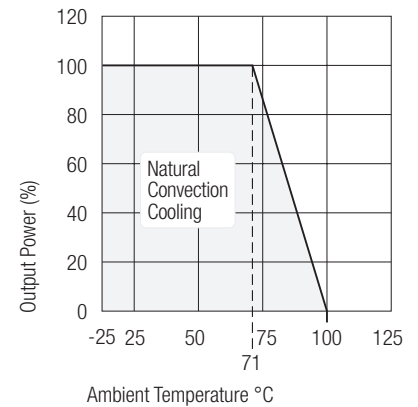
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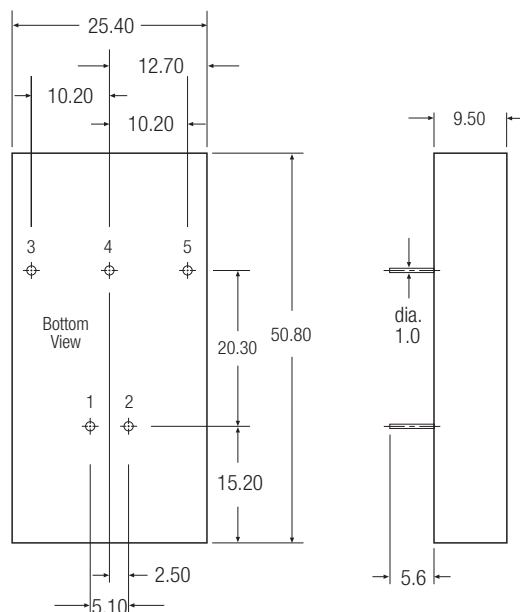
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Specifications (typical at nominal input and 25°C unless otherwise noted)

| | | |
|--|-------------------|---|
| Input Voltage Range | 24V types nominal | 9-36V |
| | 48V types nominal | 18-75V |
| Input Filter | | Pi Type |
| Voltage Accuracy | | Single Output $\pm 2\%$ |
| | | Dual Output $\pm 2\%$ |
| Voltage Balance, Dual Outputs | | $\pm 1.0\%$ |
| Ripple and Noise, 20MHz BW | | 75mVp-p |
| | | 10mV RMS |
| Line Regulation, HL-LL | | $\pm 0.2\%$ |
| Load Regulation, FL-1/4FL | Single Output | ± 0.2 (Single) |
| | Dual Output | ± 1.0 % (Dual) |
| Temperature Coefficient | | $\pm 0.02\%/^{\circ}\text{C}$ |
| Short Circuit Protection | | Indefinite |
| Transient Response Recovery Time, Single, 25% Load Step Change | | 200 μsec |
| Transient Response Recovery Time, Dual, FL-1/2 FL $\pm 1\%$ Error Band | | 200 μsec |
| Switching Frequency | | 200kHz, typ. |
| Isolation Voltage | | 1600VDC |
| Isolation Resistance | | $10^9 \Omega$ |
| Operating Temperature Range | | -25°C to +71°C |
| Alternative Operating Temperature Suffix "M2" | | -40°C to +71°C |
| Cooling | | Free-air Convection |
| EMI/RFI | | Six-sided Shield |
| Case Material | | Nickel-Coated Copper with Non-Conductive Base |
| Dimensions | | 50.8 x 25.4 x 9.5 mm |
| MTBF (MIL-HDBK-217F TA = 25°C full load) | | 1.011×10^6 Hours |



Package Style and Pinning (mm)



Pin Connections

| Pin # | Single | Dual |
|-------|--------|--------|
| 1 | +Vin | +Vin |
| 2 | -Vin | -Vin |
| 3 | +Vout | +Vout |
| 4 | No Pin | Common |
| 5 | -Vout | -Vout |

NC = No Connection

Pin Pitch Tolerance ± 0.35 mm