

Features

- 4:1 Wide Input Voltage Range
- 15 Watts Output Power
- 1.6kVDC Isolation
- Fixed Operating Frequency
- Six-Sided Continuous Shield
- International Safety Standard Approvals
- Standard 50.8 x40.6x10.2mm Package
- Efficiency to 82%

POWERLINE
DC/DC-Converter

RP15-S_DEW Series

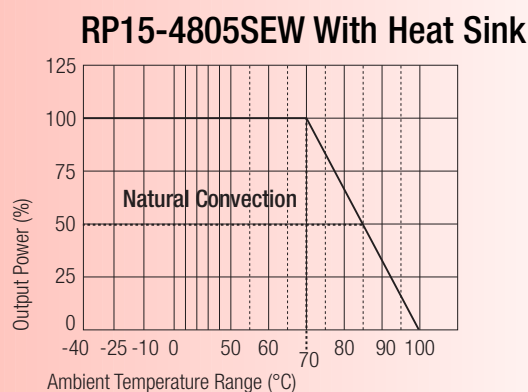
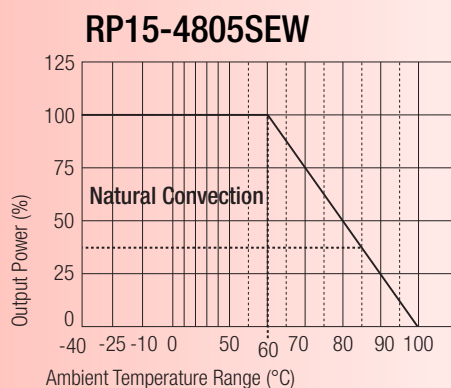
**15 Watt
Single &
Dual
Output**



Selection Guide 24V and 48V Input Types

Part Number	Input Range	Output Voltage	Output Current	Input ⁽⁴⁾ Current	Efficiency ⁽⁵⁾	Capacitive ⁽⁶⁾ Load max.
	VDC	VDC	mA	mA	%	μF
RP15-2405SEW	9-36	5	3000	822	79	6800
RP15-2412SEW	9-36	12	1250	801	82	890
RP15-2415SEW	9-36	15	1000	801	82	570
RP15-4805SEW	18-75	5	3000	411	80	6800
RP15-4812SEW	18-75	12	1250	401	82	890
RP15-4815SEW	18-75	15	1000	401	82	570
RP15-2405DEW	9-36	±5	±1500	822	80	±1700
RP15-2412DEW	9-36	±12	±625	801	82	±300
RP15-2415DEW	9-36	±15	±500	801	82	±200
RP15-4805DEW	18-75	±5	±1500	411	80	±1700
RP15-4812DEW	18-75	±12	±625	401	82	±300
RP15-4815DEW	18-75	±15	±500	401	82	±200

Derating-Graph (Ambient Temperature)



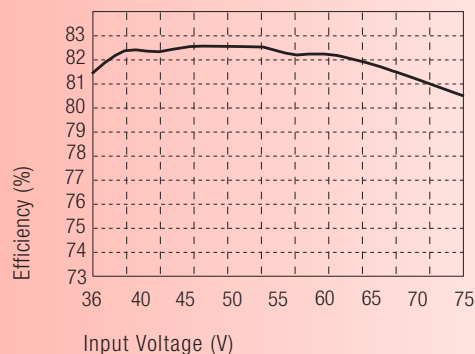
RECOM

Derating graphs are valid only for the shown part numbers. If you need detailed derating-information about a part-number not shown here please contact our technical customer service at info@recom-development.at

Typical Characteristics

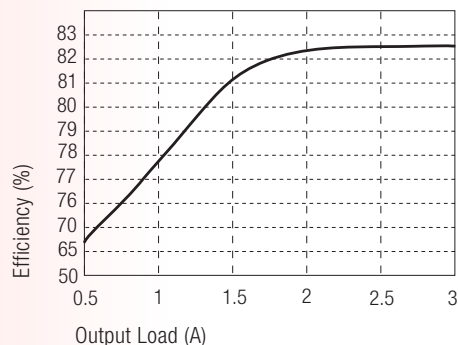
RP15-4805SEW

Efficiency VS Input Voltage



RP15-4805SEW

Efficiency VS Output load



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

Input Voltage Range	24V nominal input 48V nominal input	9-36VDC 18-75VDC
Input Filter		Pi Type
Input Surge Voltage (100 ms max.)	24V Input 48V Input	50VDC 100VDC
Input Reflected Ripple (nominal Vin and full load)		20mA _{p-p}
Start Up Time (nominal Vin and constant resistor load)		20ms typ.
Remote ON/OFF (see note 7)	DC-DC ON DC-DC OFF	Open or 3.5V < V _r < 12V Short or 0V < V _r < 1.2V
Remote OFF input current	Nominal input	20mA
Output Power		15W max.
Output Voltage Accuracy (full Load and nominal Vin)		±2%
Output Voltage Adjustability		±10%
Minimum Load (see Note 1)		10% of FL
Line Regulation (LL-HL at full load)		±0.5%
Load Regulation (25% to 100% FL)	Single Dual	±1% ±5%
Cross Regulation (asymmetrical load 25%/100% FL)		±5%
Ripple and Noise (20MHz bandwidth)		75mV _{p-p}
Temperature Coefficient		±0.02%/°C, max.
Transient Response (25% load step change)		500μs
Over Voltage Protection	5V	6.2V
Zener diode clamp (only single)	12V 15V	15V 18V
Over Load Protection (% of full load at nominal Vin)		150% typ
Short Circuit Protection		Hiccup, automatic recovery
Efficiency		see „Selection Guide“ table
Isolation Voltage		1.600VDC min.

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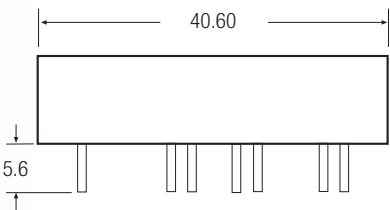
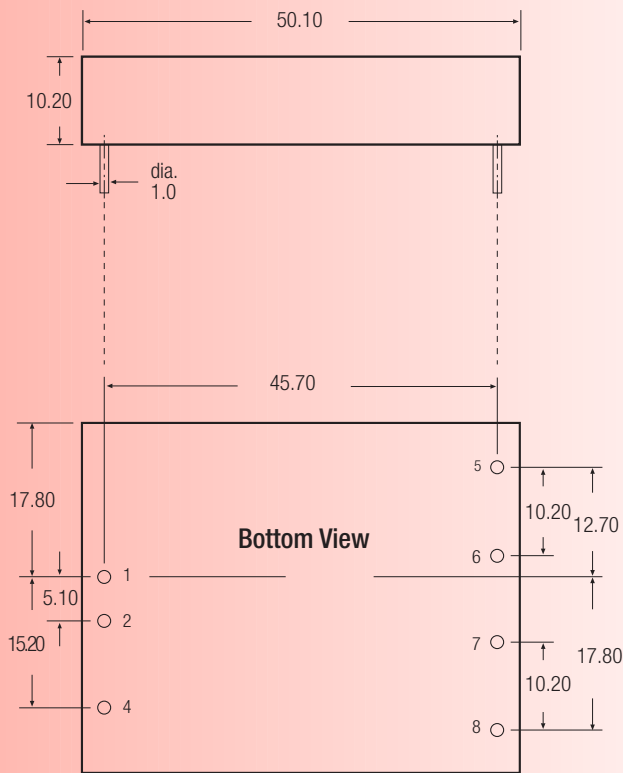
Specifications (typical at nominal input and 25°C unless otherwise noted)

Isolation Resistance		10 ⁹ Ω min.
Isolation Capacitance		300pF max.
Operating Frequency		270kHz typ.
Operating Temperature Range		-40°C to +85°C(with derating)
Maximum Case Temperature		+100°C
Storage Temperature Range		-55°C to +105°C
Thermal Impedance	Natural convection	10°C/Watt
	Natural convection with Heat Sink	8.24°C/Watt
Thermal Shock		MIL-STD-810D
Vibration		10-55Hz, 2G, 30 Min. along X, Y and Z
Relative Humidity		5% to 95% RH
Case Material		Nickel-Coated copper
Base Material		Non-conductive black plastic
Potting Material		Epoxy (UL94-V0)
Conducted Emissions	EN55022	Level A
Radiated Emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria 2
Radiated Immunity	EN61000-4-3	Perf. Criteria 2
Fast Transient	EN61000-4-4	Perf. Criteria 2
Surge	EN61000-4-5	Perf. Criteria 2
Conducted Immunity	EN61000-4-6	Perf. Criteria 2
Weight		48g
Dimensions		50.8 x 40.6 x 10.2mm
MTBF (see note 2)		2.041 x 10 ⁶ Hours

Notes :

1. The RP15 series requires a minimum of 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C (Ground fixed and controlled environment).
3. Simulated source impedance of 12uH. 12uH inductor in series with +Vin.
4. Maximum value at nominal input voltage and full load of standard type.
5. Typical value at nominal input voltage and full load.
6. Test by minimum Vin and constant resistor load.
7. The ON/OFF control voltage is reference to negative input.
8. Heat-sink option, Thermal impedance is 8.24°C/Watt for natural convection and the P/N is 7G-0011A.
9. See application notes for EMI-filtering.

Package Style and Pinning (mm)



Pin Connections

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

Pin Pitch Tolerance ± 0.35 mm

External Output Trimming

Output can be externally trimmed by using the method shown below.
() for dual output trim

