Features

- 4:1 Wide Input Voltage Range
- 10 Watts Output Power
- 1.6kVDC Isolation
- Fixed Operating Frequency
- Six-Sided Continuous Shield
- International Safety Standard Approvals
- Standard 50.8 x25.4x10.2mm Package
- Efficiency to 84%

POWERLINE
DC/DC-Converter

RP10-S_DEW Series

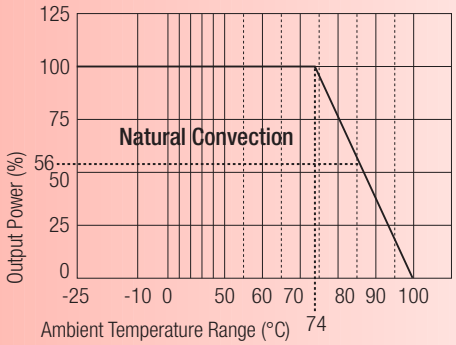
10 Watt
2" x 1" Package
Single & Dual Output

Selection Guide 24V and 48V Input Types

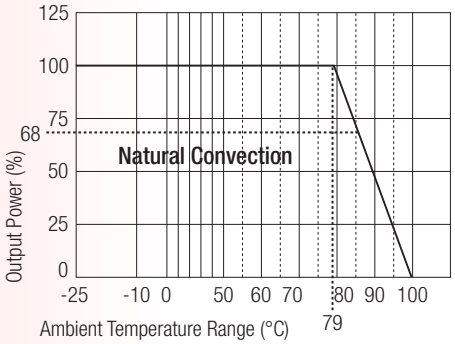
Part Number	Input Range	Output Voltage	Output Current	Input [4] Current	Efficiency[5]	Capacitive[6] Load max.
	VDC	VDC	mA	mA	%	µF
RP10-2405SEW	9-36	5	2000	548	80	4700
RP10-2412SEW	9-36	12	830	532	82	690
RP10-2415SEW	9-36	15	670	551	80	470
RP10-4805SEW	18-75	5	2000	274	80	4700
RP10-4812SEW	18-75	12	830	259	84	690
RP10-4815SEW	18-75	15	670	262	84	470
RP10-2405DEW	9-36	±5	±1000	548	80	±680
RP10-2412DEW	9-36	±12	±416	547	80	±330
RP10-2415DEW	9-36	±15	±333	548	80	±110
RP10-4805DEW	18-75	±5	±1000	271	81	±680
RP10-4812DEW	18-75	±12	±416	281	78	±330
RP10-4815DEW	18-75	±15	±333	270	81	±110

Derating-Graph (Ambient Temperature)

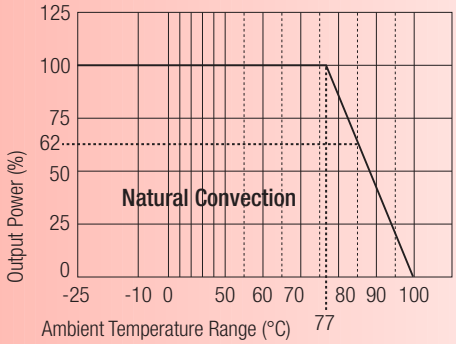
RP10-2405SEW



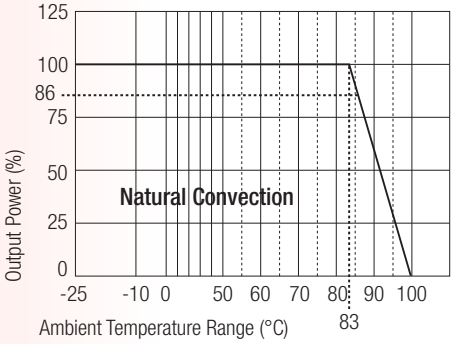
RP10-2405SEW With Heat Sink



RP10-2405DEW



RP10-2405DEW With Heat Sink



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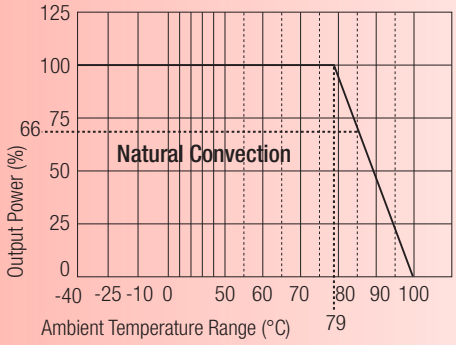
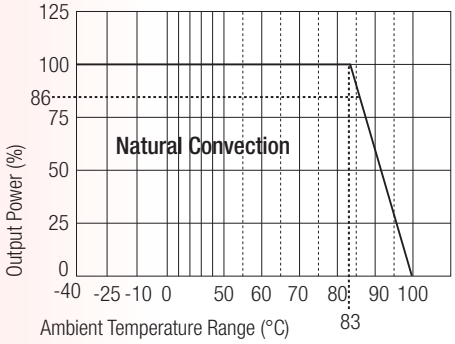
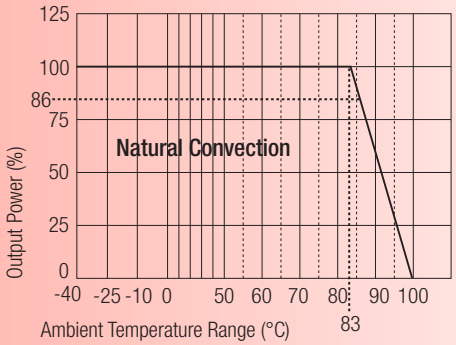


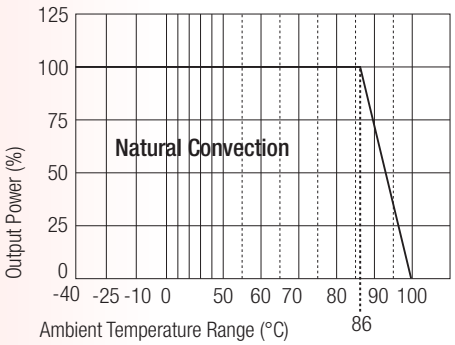
RP10-2405SEW/M2 With Heat Sink



RP10-2405DEW/M2



RP10-2405DEW/M2 With Heat Sink



Derating graphes 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

RP10-S_DEW Series

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

Input Voltage Range	24V nominal input	9-36VDC
	48V nominal input	18-75VDC
Input Filter		Pi Type
Input Surge Voltage (100 ms max.)	24V Input	50VDC
	48V Input	100VDC
Input Reflected Ripple (nominal Vin and full load)		30mAp-p
Start Up Time (nominal Vin and constant resistor load)		20ms typ.
Remote ON/OFF (see note 8)		
(Positive logic)	DC-DC ON	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
(Negative logic)	DC-DC ON	Short or 0V < Vr < 1.2V
	DC-DC OFF	Open or 3.5V < Vr < 12V
Remote OFF input current	Nominal input	2.5mA
Output Power		10W max.
Output Voltage Accuracy (full Load and nominal Vin)		±2%
Minimum Load (see Note 1)		10% of FL
Line Regulation (LL-HL at full load)		±1%
Load Regulation (25% to 100% FL)	Single	±1%
	Dual	±2%
Cross Regulation (asymmetrical load 25%/100% FL)		±5%
Ripple and Noise (20MHz bandwith)	Single	50mVp-p
	Dual	75mVp-p
Temperature Coefficient		±0.02%/°C, max.
Transient Response (25% load step change)		500µS
Over Voltage Protection	5V output	6.2V
Zener diode clamp	12V output	15V
	15V output	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.
Isolation Resistance		10^9 Ω min.
Isolation Capacitance		300pF max.
Operating Frequency		300kHz typ.
Operating Temperature Range	Standard	-25°C to +85°C(with derating)
(Reference Derating Curve)	M2	-40°C to +85°C(with derating)
Maximum Case Temperature		+100°C
Storage Temperature Range		-55°C to +105°C
Thermal Impedance	Natural convection	12°C/Watt
	Natural convection with Heat Sink	10°C/Watt
Thermal Shock		MIL-STD-810D

continued on next page

RP10-S_DEW Series

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

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		27g
Dimensions		50.8 x 25.4 x 10.2mm
MTBF (see note 2)		1.976 x 10^6 Hours

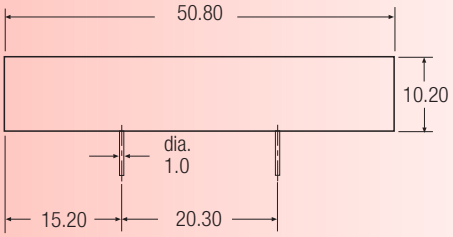
Notes :

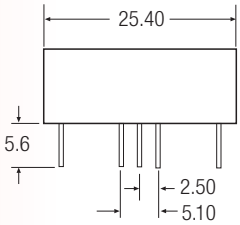
1. The RP10 (W) series required a minimum 10% loading on the output to maintain specified regulation.
   Operation under no-load condition will not damage these devices, however they may not meet all listedspecification.
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC. (Ground fixed 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 function can be positive or negative logic. The pin voltage is referenced to negative input.
   Positive logic ON/OFF is standard, no suffix (Ex. RP10-2405SEW)
   Negative logic ON/OFF is marked with suffix-N (Ex. RP10-2405SEW/N).
8. Heat sink is optional and P/N: 7G-0020A.
9. The RP10-xxxxEW version (incl. M2 option) does not carry the UL certification.
10. M2 version is more efficient, therefore, it can be operated in a more extensive temperature range than standard version.
11. See application notes for EMI-filtering.

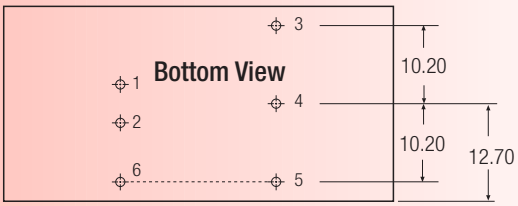
RP10-S_DEW Series

Package Style and Pinning (mm)

3rd angle projection







Pin Connections

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

Pin Pitch Tolerance ±0.35 mm