Features

ICE Technology*

- Up to 89°C Ambient, no derating (40W)
- 120°C Maximum Case Temperature
- -45°C MinimumTemp. (optional: -55°C)
- Built-in FCC/EN55022 Class B Filter
- 2:1 Wide Input Voltage Range
- 50 Watts Output Power
- Ribbed, Flat or Baseplate Case Styles
- Efficiency to >91%
- 3kVDC Isolation
- Fully Protected
- Low Quiescent Current

Description

The RPP50 series 2:1 input range DC/DC converters are ideal for high end industrial applications and COTS Military applications where a very wide operating temperature range of -45°C to +120°C is required. The converters are also optionally available with a -55°C start-up temperature. Although the case size is very compact, the converter contains a built-in filter EN55022 Class B / FCC Level B without the need for any external components. The RPP is available in three case styles: the high operating temperature ribbed case, the low profile flat case and the baseplate case for high vibration or bulkhead-mounting applications. They are UL-60950-1 certified

Selection Guide 24V and 48V Input Types

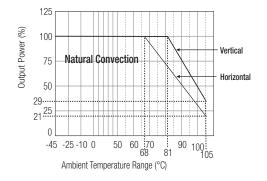
Part Number	Input Range VDC	Output Voltage VDC	Output Current A	Input ⁽¹⁾ Current mA	Efficiency ⁽²⁾ (Typ.)	Max ⁽³⁾ Operating Temp
RPP50-243.3S	18-36	3.3	15	58/2405	86.6%	58°C
RPP50-2405S	18-36	5	10	60/2315	90.0%	74°C
RPP50-2412S	18-36	12	4.16	18/2370	88.3%	66°C
RPP50-2415S	18-36	15	3.33	18/2315	90.0%	74°C
RPP50-2424S	18-36	24	2.10	18/2315	90.0%	74°C
RPP50-483.3S	36-75	3.3	15	42/1177	88.6%	68°C
RPP50-4805S	36-75	5	10	37/1140	91.4%	81°C
RPP50-4812S	36-75	12	4.16	11/1165	89.4%	72°C
RPP50-4815S	36-75	15	3.33	11/1141	91.2%	81°C
RPP50-4824S	36-75	24	2.10	11/1141	91.2%	81°C

^{**} add suffixes for case, temperature or CTRL logic options.

Derating Graph (Ambient Temperature)

RPP50-4805S

Derating graphs are valid only for the shown part numbers. Please contact Technical Support for more information info@recom-development.at



POWERLINE+

DC/DC-Converter

with 3 year Warranty



50 Watt 2:1 Single Output







UL-60950-1 Certified E224736

RPP50-S

SUFFIX INFORMATION

 $none = Standard \ Ribbed \ Case$

-B = Baseplate Case

-F = Flat Case

 $-L = Low Temp (-55^{\circ}C) Ribbed Case$

-M = Low Temp (-55°C) Baseplate Case

-T = Low Temp (-55°C) Flat Case

add "1" before suffix for neg. CTRL logic e.g. -1, -1B, -1F, etc.

* ICE Technology

ICE (Innovation in Converter Excellence) uses state-of-the-art techniques to minimise internal power dissipation and to increase the internal temperature limits to extend the ambient operating temperature range to the maximum. Refer to Application Notes

POWERLINE+

DC/DC-Converter

RPP50-5 Series

Input Voltage Range	Specifications (typical at nominal input and 25°C unless otherwise noted)		
Direct Voltage Lackout	Specifications (typical at norminal input and 25 of diffess office wise noted)		
Description	Input Voltage Range	24V nominal input	18-36VDC
A8V input DC DC OFF (max 39VDC 39VDC 39VDC 10put 10put Filter 10put Fi		48V nominal input	36-75VDC
DC-DC OFF (max DC-	Under Voltage Lockout		
Input Filter Input Voltage Variation dv/dt (Complies with ETSS00 132 part 4.4) Input Surge Voltage (100 ms max) Input Surge Voltage (100 ms max) Input Surge Voltage (100 ms max) Input Reflected Ripple Input			
input Voitage Voitage (Votage (Input Filter	· , ,	Common Mode EMC Filter
Input Surge Voltage (100 ms max) 24V Input 50 Volto (40 Vinput Reflected Ripple nominal Vm and full load 30 mApp-D Start Up Time nominal Vm and constant resistor load 2 ms typ., 5 ms max. Logic High Open or 3 0 V < Vm < 5.5V Logic Low Short or 0 V < Vm < 5.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 V < Vm < 7.5V Logic Low Short or 0 Vm < 7.5V Low Short or 0 Vm < 7.5V Logic L	 		5V/ms max
Injust Reflected Ripple nominal Vin and full load 30mAp-p Slart Up Time nominal Vin and constant resistor load 2ms Mp., 5ms max with provided p		24V Input	
Start Up Time nominal Vin and constant resistor load 2ms byp., 5ms max. Remote ON/OFF ⁶⁴ Logic Hight Open or 3.0V < √ < 5.5V brook over √ < 1.2V brook over √ ≤ 1.2V brook o		48V Input	100VDC
Remote ON/OFF ® Logic High Logic Low Open or 3.0V < Vr < 5.5V Logic Low Short or 0V < Vr < 1.2V Remote OFF input current Nominal input Short or 0V < Vr < 1.2V	Input Reflected Ripple	nominal Vin and full load	30mAp-p
Remote OFF input current	Start Up Time	nominal Vin and constant resistor load	2ms typ., 5ms max.
Remote OFF input current Nominal input 2mA kp. Output Power 50W max. Output Voltage Accuracy 10% Load and nominal Vin ±1% Voltage Adjustability ±10% Minimum Load 0% ±0.3% Line Regulation low line, high line at full load ±0.3% Load Regulation 10% to 100% full load ±0.5% Rippie and Noise (20MHz bandwith limited) 3.3%, 5V 60mPp- p by. Investment IP capacitor across output) All others 40mPp- p by. Remperature Coefficient ±0.04%/°C max. ±0.04%/°C max. Tansient Response 25% load step change 200µs Over Load Protection % of full load at nominal Vin 1200 kby. Short Circuit Protection % of full load at nominal Vin 1200 kby. Output Over Voltage Protection (refer to block diagram in Application Notes) Converter shutdown if Yout > Vont nominal + 20% Isolation Natisge Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second \$10MΩ min. Isolation Capacitance (refer to block diagram in Application Notes) Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolat	Remote ON/OFF (4)		·
Output Voltage Accuracy 10% Load and nominal Vin ± 1% Voltage Adjustability ± 10% Minimum Load 0% Line Regulation 10w line, high line at full load ± 0.3% Load Regulation 10% to 100% full load ± 0.5% Ripple and Noise (20MHz bandwith limited) 3.3%, 5V 60mVp-p by. (measured with Tufz capacitor across output) All others 40mVp-p by. (measured with Tufz capacitor across output) All others ± 0.04%/*C max. Transient Response 25% load step change 200µs Over Load Protection % of full load at nominal Vin 120% bp. Short Circuit Protection % of full load at nominal Vin 120% bp. Short Circuit Protection (refer to block diagram in Application Notes) Converter shutdown if Vout > Vout nominal + 20% Shotation Resistance Rated at 2250VDC/1 minute, Flash steat at 3000VDC/1 second Isolation Resistance Isolation Capacitance (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum Case Temperature Range -45°C to +12°C Over Temperature Protection (refer to block diagram	Remote OFF input current		2mA typ.
Voltage Adjustability ± 10% Minimum Load 0% Line Regulation low line, high line at full load ± 0.3% Load Regulation 10% to 100% full load ± 0.5% Ripple and Noise (20MHz bandwith limited) 3.3%, 5V 60mVp-p typ. Ripple and Noise (20MHz bandwith limited) 3.3%, 5V 60mVp-p typ. Itemperature Coefficient ± 0.04%/*C max. Transient Response 25% load step change 200µs Over Load Protection % of full load at nominal Vin 1±20% typ. Short Circuit Protection (refer to block diagram in Application Notes) Converter shutdown if Vout > Vout nominal + 20% Solation Voltage Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Resistance Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Capacitance (refer to block diagram in Application Notes) Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Resistance Solation Capacitance (refer to block diagram in Application Notes) 3000pF max. 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum 4120°C 3000pF max. Operating Frequency Ambient, Free Convection -45°C to +81°C max (without derating) 4120°C	Output Power		50W max.
Minimum Load Line Regulation low line, high line at full load ±0.3% Load Regulation 10% to 100% full load ±0.5% Ripple and Noise (20MHz bandwith limited) 3.3%, 5V 60mMp-p typ. (measured with 1µF capacitor across output) All others 40mWp-p typ. Temperature Coefficient ±0.04%/°C max. Transient Response 25% load step change 200µs Over Load Protection % of full load at nominal Vin 120% typ. Short Circuit Protection % of full load at nominal Vin 120% typ. Short Circuit Protection (refer to block diagram in Application Notes) Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Voltage Protection (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ±40kHz Maximum Case Temperature Range -55°C to +125°C Over Temperature Range -Ambient, Free Convection -55°C to +125°C Over Temperature Range -Ambient, Free Convection -55°C to +125°C Over Temperature Range -Ambient, Free Convection -55°C to +125°C Case Material - Packing Quantity -Ribbed Case - 34g Raticase 34g Raticase -34g Raticase	Output Voltage Accuracy	10% Load and nominal Vin	±1%
Line Regulation Low line, high line at full load	Voltage Adjustability		±10%
Load Regulation 10% to 10% full load ±0.5% Ripple and Noise (20MHz bandwith limited) (measured with 1µF capacitor across output) 3.3V, 5V 60mVp-p typ. 40mVp-p typ. All others 60mVp-p typ. 40mVp-p typ. All others ±0.04%/°C max. Transient Response 25% load step change 200µs 200µs Over Load Protection % of full load at nominal Vin 120% typ. 5kpr. Circuit Protection Hiccup, automatic recovery Output Over Voltage Protection (refer to block diagram in Application Notes) Converter shutdown if Vout > Vout nominal + 20% load ton Voltage Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second load in Resistance 10MΩ min. load min. load min. load at 2560VDC/1 minute, Flash tested at 3000VDC/1 second load in Resistance (refer to block diagram in Application Notes) 3000pF max. load min. load min. load at 2560VDC/1 minute, Flash tested at 3000VDC/1 second load in Resistance (refer to block diagram in Application Notes) 3000pF max. load min. load	Minimum Load		0%
Ripple and Noise (20MHz bandwith limited) (measured with 1µF capacitor across output) 3.3V, 5V All others 60mVp-p typ. 40mVp-p t	Line Regulation	low line, high line at full load	±0.3%
greasured with 1μF capacitor across output) All others 40mVp-p typ. Temperature Coefficient ±0.04%/°C max. Transient Response 25% load step change 200μs Over Load Protection % of full load at nominal Vin 120% typ. Short Circuit Protection Hiccup, automatic recovery Output Over Voltage Protection (refer to block diagram in Application Notes) Converter shutdown if Vout > Vout nominal + 20% Isolation Voltage Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Capacitance (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum Case Temperature Range -55°C to +125°C Over Temperature Protection (refer to block diagram in Application Notes) internal thermistor RPP50 Operating Temperature Protection (refer to block diagram in Application Notes) -45°C to +81°C max (without derating) RPP50 Operating Temperature Range Ambient, Free Convection -45°C to +81°C max (without derating) Thermal Impedance Ribbed Case: Vertical 7.3°C/Watt (Natural convection Ribbed Case: Horizontal 10°C/Watt Case Material ⁽²⁾ Aluminium	Load Regulation	10% to 100% full load	±0.5%
Transient Response 25% load step change 200µs			
Over Load Protection % of full load at nominal Vin 120% typ. Short Circuit Protection Hiccup, automatic recovery Output Over Voltage Protection (refer to block diagram in Application Notes) Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Resistance 10MΩ min. Isolation Capacitance (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum Case Temperature ±120°C Storage Temperature Range 55°C to +125°C Over Temperature Protection (refer to block diagram in Application Notes) internal thermistor RPP50 Operating Temperature Range Ambient, Free Convection -45°C to +81°C max (without derating) Thermal Impedance Ribbed Case: Vertical 7.3°C/Watt Natural convection Ribbed Case: Horizontal 10°C/Watt Relative Humidity 5% to 95% RH Case Material (m) Aluminium Potting Material Ribbed Case Flat Case 349 Basrplate Case 45g Packing Quantity Ribbed and Flat Case 4 pcs per Tube	Temperature Coefficient		±0.04%/°C max.
Short Circuit ProtectionHiccup, automatic recoveryOutput Over Voltage Protection (refer to block diagram in Application Notes)Converter shutdown if Vout > Vout nominal + 20%Isolation VoltageRated at 2250VDC/1 minute, Flash tested at 3000VDC/1 secondIsolation Resistance10MΩ min.Isolation Capacitance (refer to block diagram in Application Notes)3000pF max.Operating Frequency260kHz ± 40kHz MaximumCase Temperature+120°CStorage Temperature Range-55°C to +125°COver Temperature Protection (refer to block diagram in Application Notes)internal thermistorRPP50 Operating Temperature RangeAmbient, Free Convection -55°C Version-45°C to +81°C max (without derating) -55°C to +81°C max (without derating) -55°C VersionThermal ImpedanceRibbed Case: Vertical7.3°C/Watt -55°C Watt(Natural convectionRibbed Case: Horizontal10°C/WattRelative Humidity5% to 95% RHCase Material (**)AluminiumPotting MaterialSilicone (UL94-VO)WeightRibbed Case - Hat Case - Basrplate Case34g - Basrplate CasePacking QuantityRibbed and Flat Case4 pcs per Tube	Transient Response	25% load step change	200µs
Output Over Voltage Protection (refer to block diagram in Application Notes) Converter shutdown if Vout > Vout nominal + 20% Isolation Voltage Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Resistance 10MΩ min. Isolation Capacitance (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum Case Temperature +120°C Storage Temperature Range -55°C to +125°C Over Temperature Protection (refer to block diagram in Application Notes) internal thermistor RPP50 Operating Temperature Range Ambient, Free Convection -45°C to +81°C max (without derating) -55°C Version -55°C Version -55°C to +81°C max (without derating) -55°C Version -55°C to +81°C max (without derating) -55°C Version -55°C Version -55°C to +81°C max (without derating) -55°C Version	Over Load Protection	% of full load at nominal Vin	120% typ.
Solation Voltage Rated at 2250VDC/1 minute, Flash tested at 3000VDC/1 second Isolation Resistance 10MΩ min. Isolation Capacitance (refer to block diagram in Application Notes) 3000pF max.	Short Circuit Protection		Hiccup, automatic recovery
Isolation Resistance10MΩ min.Isolation Capacitance (refer to block diagram in Application Notes)3000pF max.Operating Frequency260kHz ± 40kHz MaximumCase Temperature+120°CStorage Temperature Range-55°C to +125°COver Temperature Protection (refer to block diagram in Application Notes)-45°C to +81°C max (without derating)RPP50 Operating Temperature RangeAmbient, Free Convection -55°C Version-45°C to +81°C max (without derating)Thermal ImpedanceRibbed Case: Vertical Ribbed Case: Horizontal7.3°C/WattRelative Humidity5% to 95% RHCase Material (**)AluminiumPotting MaterialSillicone (UL94-V0)WeightRibbed Case Flat Case Basrplate Case39g Flat Case Basrplate CasePacking QuantityRibbed and Flat Case4 pcs per Tube	Output Over Voltage Protection (refer to block diagram in Application Notes)	Converte	er shutdown if Vout > Vout nominal + 20%
Solation Capacitance (refer to block diagram in Application Notes) 3000pF max. Operating Frequency 260kHz ± 40kHz Maximum 260kHz ± 40kHz ± 40kHz Maximum 260kHz ± 40kHz	Isolation Voltage	Rated at 2250VDC/1 n	ninute, Flash tested at 3000VDC/1 second
Operating Frequency 260kHz ± 40kHz Maximum Case Temperature +120°C Storage Temperature Range -55°C to +125°C Over Temperature Protection (refer to block diagram in Application Notes) internal thermistor RPP50 Operating Temperature Range Ambient, Free Convection -45°C to +81°C max (without derating) -55°C Version -55°C to +81°C max (without derating) -55°C Version -55°C to +81°C max (without derating) remainded (Natural convection) Ribbed Case: Vertical row without derating remainded r	Isolation Resistance		10MΩ min.
Case Temperature Storage Temperature Range Over Temperature Protection (refer to block diagram in Application Notes) RPP50 Operating Temperature Range Ambient, Free Convection -45°C to +81°C max (without derating) -55°C Version -55°C -55°C Ve	Isolation Capacitance (refer to block diagram in Application Notes)		3000pF max.
Storage Temperature Range Over Temperature Protection (refer to block diagram in Application Notes) RPP50 Operating Temperature Range Ambient, Free Convection -55°C to +81°C max (without derating) -55°C Version -55°C to +81°C max (without derating) -55°C to +81°C max (without derating) -55°C version -55°C version -55°C version -55°C to +81°C max (without derating) -55°C version -55°C to +81°C max (without derating) -55°C version	Operating Frequency		260kHz ± 40kHz Maximum
Over Temperature Protection (refer to block diagram in Application Notes) RPP50 Operating Temperature Range Ambient, Free Convection -55°C Version -55°C to +81°C max (without derating) -55°C to +81°C max (without derating) -55°C Version Ribbed Case: Vertical Ribbed Case: Vertical Relative Humidity Relative Humidity Case Material Potting Material Relative Humidity Ribbed Case Ribbed Case: Horizontal Relative Humidity Ribbed Case: Horizontal Ribbed Case: Hor	Case Temperature		+120°C
RPP50 Operating Temperature Range Ambient, Free Convection -55°C Version -55°C to +81°C max (without derating) -55°C Version -55°C to +81°C max (without derating) -55°C to +81°C max (Storage Temperature Range		-55°C to +125°C
Thermal Impedance (Natural convection Ribbed Case: Vertical Ribbed Case: Horizontal 10°C/Watt (Natural convection Ribbed Case: Horizontal 10°C/Watt St to 95% RH Case Material (**) Potting Material Ribbed Case Ribbed Case Silicone (UL94-V0) Weight Ribbed Case Flat Case Flat Case 39g Flat Case 34g Basrplate Case 4 pcs per Tube	Over Temperature Protection (refer to block diagram in Application Notes)		internal thermistor
Thermal Impedance (Natural convection Ribbed Case: Vertical 7.3°C/Watt (Natural convection Ribbed Case: Horizontal 10°C/Watt 1	RPP50 Operating Temperature Range		,
Relative Humidity Case Material (7) Potting Material Weight Ribbed Case Flat Case Flat Case Basrplate Case Packing Quantity Ribbed and Flat Case 4 pcs per Tube	Thermal Impedance		· · · · · · · · · · · · · · · · · · ·
Case Material (7) Potting Material Weight Ribbed Case Flat Case Flat Case Basrplate Case Packing Quantity Ribbed and Flat Case 4 pcs per Tube	(Natural convection	Ribbed Case: Horizontal	10°C/Watt
Potting Material Silicone (UL94-VO) Weight Ribbed Case 39g Flat Case 34g Basrplate Case 43g Packing Quantity Ribbed and Flat Case 4 pcs per Tube	Relative Humidity		5% to 95% RH
Weight Ribbed Case Flat Case Flat Case Sarplate Case Flat Case Sarplate Case Flat Case Sarplate Case Flat Case Flat Case Sarplate Case Flat Case Flat Case Sarplate Case Flat Ca	Case Material (7)		Aluminium
Flat Case 34g Basrplate Case 43g Packing Quantity Ribbed and Flat Case 4 pcs per Tube	Potting Material		Silicone (UL94-V0)
Basrplate Case 43g Packing Quantity Ribbed and Flat Case 4 pcs per Tube	Weight		
Packing Quantity Ribbed and Flat Case 4 pcs per Tube			
	Packing Quantity	Ribbed and Flat Case	4 pcs per Tube

POWERLINE+

RPP50-S Series

DC/DC-Converter

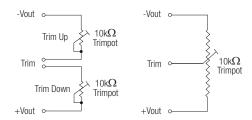
Specifications (typical at nominal input and 25°C unless otherwise noted)

Safety Standards		certified UL-60950-1, 1st Edition
Thermal Cycling		complies with MIL-STD-810F
Vibration		10-55Hz, 12G, 30 Min. along X, Y and Z
Conducted Emissions	EN55022	Class B
Radiated Emissions	EN55022	Class B
ESD	EN61000-4-2	Perf. Criteria B
Radiated Immunity	EN61000-4-3	Perf. Criteria A
Fast Transient (5)	EN61000-4-4	Perf. Criteria B
Surge (5)	EN61000-4-5	Perf. Criteria B
Conducted Immunity	EN61000-4-6	Perf. Criteria A
MTBF calculated according to BELLCORE TR-NWT-000332 ⁽⁶⁾	1989 x 10 ³ hours	

Notes:

- 1. Typical values at nominal input voltage and no load/full load.
- 2. Typical values at nominal input voltage and full load.
- 3. Typical values for ribbed case at nominal input voltage and full load in vertical orientation and with Eurocard-sized PCB ground planes to assist in heat dissipation. For horizontal orientation, reduce the maximum temperatures by 10°C.
- 4. The ON/OFF pin voltage is referenced to negative input. The pin is pulled high internally.
 - ON/OFF control is standard with positive logic: e.g. RPP40-2405SW, RPP50-4805S-B.
 - Add "1" before the suffix for negative logic: e.g. RPP40-2405SW-1, RPP50-4805S-1B.
 - Positive logic: 0 = OFF, 1 = ON. The converter will be ON if the CTRL is left open.
 - Negative logic: 1 = OFF, 0 = ON. The converter will be OFF if the CTRL is left open.
- 5. Requires an external 100 μ F/100V low ESR capacitor to meet EN61000-4-4 and EN61000-4-5
- 6. Case I: 50% Stress, Temperature at 50°C (Ground Benign).
- 7. To ensure a good all-round electrical contact, the baseplate is pressed firmly into place within the aluminium housing. The hydraulic press can leave tooling marks and deformations to both the housing and baseplate. The case is anodised aluminium, so there will be natural variations in the case colour and the aluminium is not scratch resistant. Any resultant marks, scratches and colour variations are cosmetic only and do not affect the operation or performance of the converters.

External Output Trimming Refer to Application Notes for suggested Resistor Values

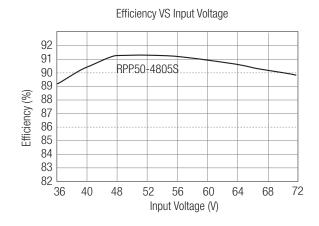


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RPP50-S Series

Typical Characteristics

RPP50-4805S



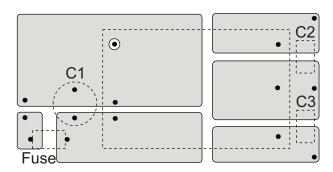
Recommended PCB Layout

RPP50

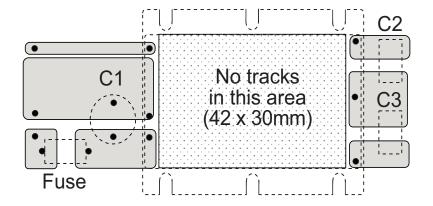
Single Output

C1 • C2

Dual Output



Baseplate Case- suggested PCB layout (dual output)



Input Fuse is recommended, but optional. Recommended fuse rating = double maximum input current, time delay type.

Input Capacitor, C1, is required to meet EN61000 Surge and Fast Transient, otherwise it is not required for normal operation.

Output Capacitors C2/C3 are recommended, but not required for normal operation. Typical capacitor values are 1µF/100V MLCC

To ensure optimum thermal performance, use large areas of copper on the PCB to assist with heat dissipation and mount the converter vertically.

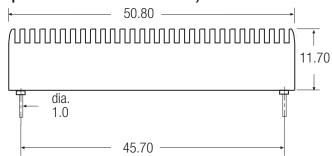
PP-40 REV: 0/2011 www.recom-electronic.com

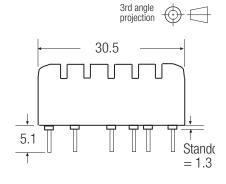
POWERLINE+

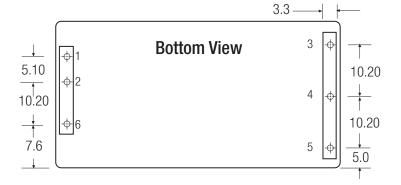
DC/DC-Converter

Package Style and Pinning (mm)

Ribbed Case (Standard - no Suffix) (Low temperature version = suffix -L)





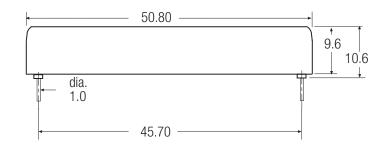


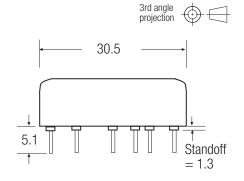
Pin # Single Dual 1 +Vin +Vin 2 -Vin -Vin 3 +Vout +Vout 4 -Vout Com 5 Trim -Vout

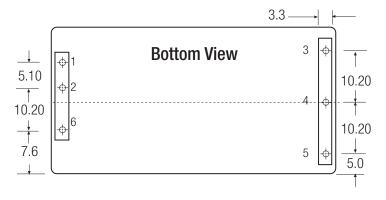
Pin Connections

Pin Pitch Tolerance ±0.35 mm

Flat Case (-F Suffix) (Low temperature version = suffix -T)







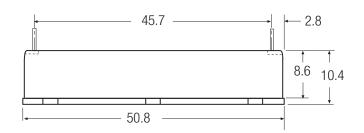
Single	Dual	
+Vin	+Vin	
-Vin	-Vin	
+Vout	+Vout	
-Vout	Com	
Trim	-Vout	
CTRL	CTRL	
	+Vin -Vin +Vout -Vout Trim	

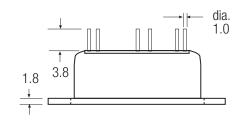
Pin Pitch Tolerance ±0.35 mm

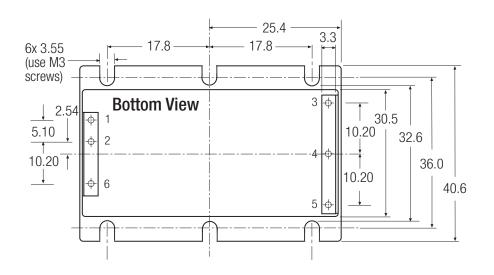
Typical Characteristics

Baseplate Case (-B Suffix) (Low temperature version = suffix -M)





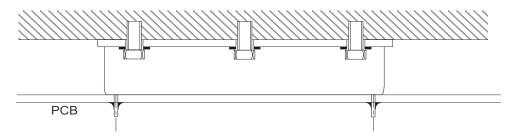




PIN CONNECTIONS			
Pin#	Single	Dual	
1	+Vin	+Vin	
2	-Vin	-Vin	
3	+Vout	+Vout	
4	Trim	Com	
5	-Vout	-Vout	
6	CTRL	CTRL	

Pin Pitch Tolerance ±0.35 mm

Baseplate Case Fixing - Mounting onto Heatsink/Bulkhead



Baseplate Case Fixing - Anti Vibration Mounting onto PCB

