

# WRV Series

PCB mount ultra compact, regulated, high voltage DC-DC converter, raised mounting



- 36 standard products
- ◇ Reference: see chart for complete reference
- ◇ 3 output voltage ranges (Vout): 0 to 2kV or 2.5kV or 3kV
- ◇ 3 input voltage ranges (Vin): 3.6 to 10Vdc [5] or 6 to 15Vdc [12]



## General Description

◇ The WRV Series use an original design involving a high frequency, pulse by pulse regulated PWM regulator (Current Mode) which allows an exceptional wide input voltage range. Thus, those converters are recommended for unregulated supplies such as batteries, solar cells, etc...and too, for systems with versatile sources of power. A pre-regulator is useless and savings are made. Also, the technique allows a tight output regulation and a very low, free of pic, ripple. TC <50ppm/°C

Parameters	Specifications									
Input voltage Vin (pins 1 & 2)	[5]: absolute maximum 15Vdc, recommended: from 3.6 to 10Vdc [12]: absolute maximum 28Vdc, recommended: from 6 to 15Vdc [24]: absolute maximum 28Vdc, recommended: from 13.5 to 26Vdc									
Input current (room temperature)		[5]			[12]			[24]		
	Vin	3.6Vdc	5.0Vdc							
	Inhibit. Mode	<40µA	<60µA							
	HV setting = 0V	<6mA	<5mA	<5mA	<2mA		<3mA	<5mA	<6mA	<6mA
	HV setting = 2.5Vdc, no load		<90mA	<55mA						
HV setting = 2.5Vdc, full load										
HV output Vout (pin 9)	Programmable voltage: refer to the Selection Guide for voltage ranges									
Polarity	Fixed positive or negative									
HV setting (pins 3, 4)	Via an external voltage source 0 to + 2.5Vdc. An external potentiometer, minimum resistance 2k, can be used associated with the reference voltage (pin5). The input impedance of the HV setting is 1M. Accuracy: +/- 0.2% at rated output voltage.									



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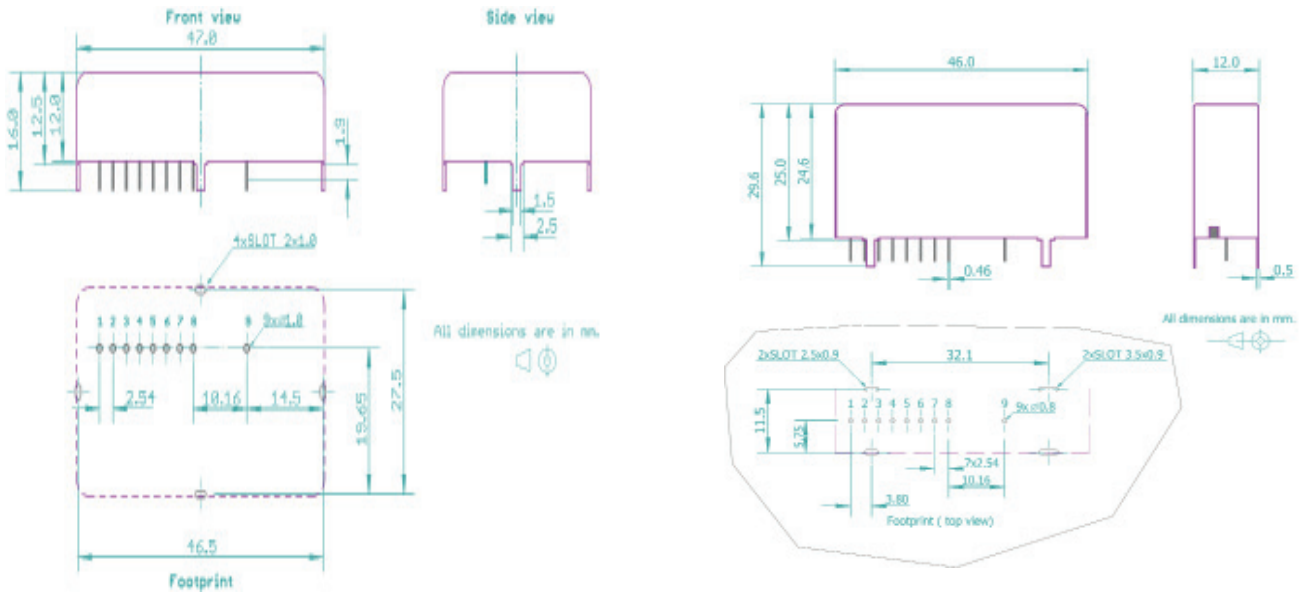
Parameters	Specifications
Max. output current I <sub>out</sub>	Refer to the Selection Guide
Load voltage regulation	±0.01 % for no load to full load
Line voltage regulation	±0.01 % over recommended input voltage range
Residual ripple	0.002 %
Temperature coefficient	<50ppm/°C
Output HV monitoring (pin 6)	0/+ 2.500V, output impedance = 1kΩ Accuracy: +/- 0.2 % at rated output voltage
Output current monitoring (pin 7)	0/+2.500V, output impedance = 1Ω Accuracy: +/-1 % after compensation (see note)
Output reference voltage (pin 5)	Refer to the Selection Guide
Inhibition mode (pin 8)	±0.01 % for no load to full load
Operating case temperature	-40°C to + 80°C
Storage temperature	-40°C to + 80°C
Safeguards	<ul style="list-style-type: none"><li>• Arc and short circuit protection</li><li>• Soft start feature: the start is guaranteed with no overshoot</li><li>• Protected against reverse V<sub>in</sub> (-30Vdc max.)</li><li>• HV</li></ul>



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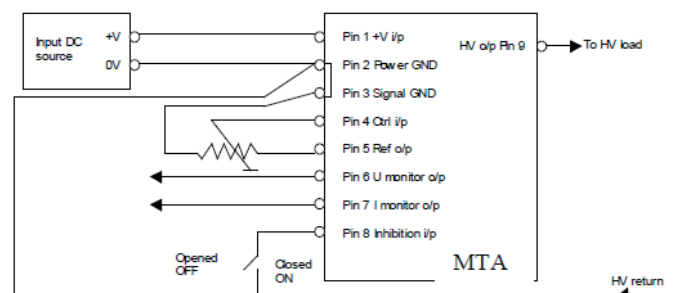
## Mechanical Dimensions



## Package Configuration

Case material	Tin steel plate Thickness 0.5 mm
Case dimensions LxHxW	MTF: 47.0 x 28.0 x 12.5 mm MTR: 47.0 x 28.0 x 12.5 mm
Pins	Through 0.46 round pins, length 3 mm, spacing: 2.54 mm, option: flying wire for HV output
PCB mounting	Through 4 mounting tabs length: 5 mm, width: 1,5 mm, thickness : 0,5 mm
Weight	35g
Weight	5 g
Insulation	Fully potted in an epoxy resin

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## Pin Connections

Line input	1. Vin 2. 0V supply
HV setting	3. 0V signal 4. Control input 5. Output reference
HV monitoring	6. Voltage monitoring
I monitoring	7. Current monitoring
Inhibition	8. Inhibition input
HV output	9. Vout

## Applications

Batteries

Solar

Cells

Versatile sources of power

## Ordering information

Model	Name of the series	WRV
Vin	3.6 to 10Vdc	5
	6 to 15Vdc	12
	13 to 26Vdc	24
Polarity	Positive output voltage	P
	Negative output voltage	N
Vout	Output voltage	See ordering code
Iout	Output current	See ordering code
Option	Flying wire to collect the HV output	W



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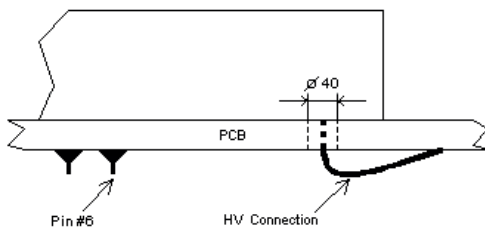
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## WRV Series selection guide

Iout/Pout	Vout	Iout/Pout	Polarity	Model
[5] 3.6 to 10.0V	300V	330µA/1W	+	WRV 5P302331
			-	WRV 5N302331
	2500V	400µA/1W	+	WRV 5P252401
			-	WRV 5N252401
	2000V	500µA/1W	+	WRV 5P202501
			-	WRV 5N202501
[12] 6.0 to 158.0V	3000V	330µA/1W	+	WRV12P302331
			-	WRV 12N302331
	2500V	400µA/1W	+	WRV 12P252401
			-	WRV 12N252401
	2000V	500µA/1W	+	WRV 12P202501
			-	WRV 12N202501
[24] 13.5 to 26V	3000V	330µA/1W	+	WRV 24P302331
			-	WRV 24N302331
	2500V	400µA/1W	+	WRV 24P252401
			-	WRV 24N252401
	2000V	500µA/1W	+	WRV 24P202501
			-	WRV 24N202501

## Application hints

### Side view



Installation with the optional flying wire for HV output



This High Voltage power supply satisfies the requirements of EC Directives Safety.

Non contractual document.  
All specifications are subject to change without notice.

Rev.B 04/19

