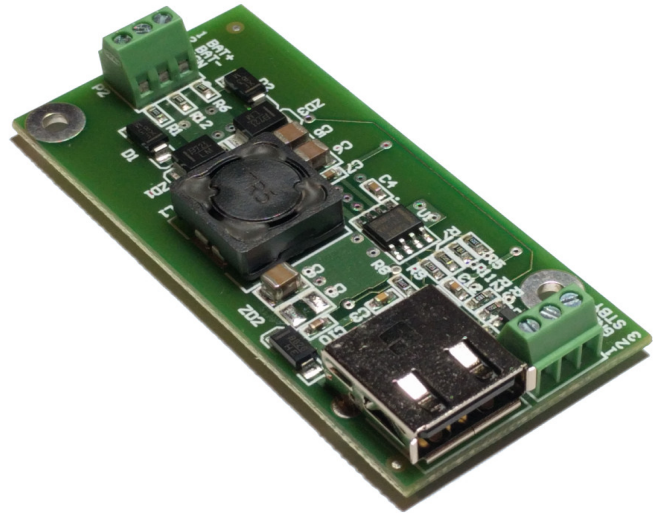


BWS CAR PS V1

12V to 5V DC 2.5A
synchronous power supply

Overview

High efficiency synchronous power supply with ignition state detection equipped optionally with USB-A female socket for the power output.



All pictures shown are for illustration purpose only. Actual product may vary depending on production serie.

Electrical characteristics

Input voltage range	7V-16V
Output voltage	5V ±2.5%
Maximum output current	2.5A
Ignition voltage detection threshold	7V
Operating temperature range	-40°C ÷ +50°C
Maximum Output Voltage Ripple	50mV
Quiescent current	0.72mA
Efficiency	80%
Ignition detection	Via external pull-up resistor (min. 1.8kohm) Active by LOW state

Synchronous DC/DC Converter with

- Overcurrent protection
- Thermal protection
- Overvoltage Transient Protection
- ESD protection HBM ±2kV

Input pins

BAT+	Positive from the input power source
BAT-	Negative from the input power source
IGN	Positive from the ignition source

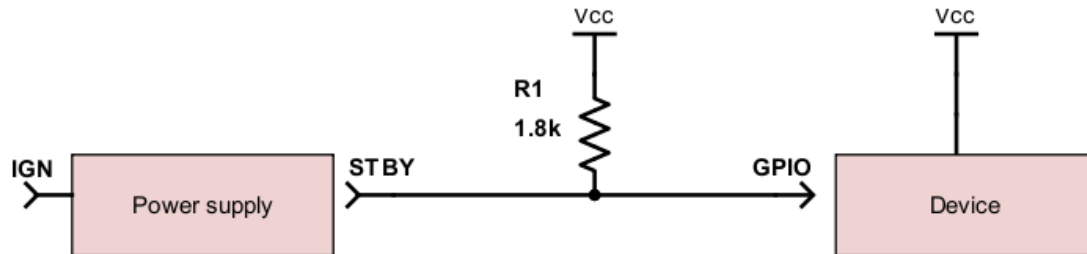
Output pins

+5V	+5V power output
GND	GND power output
STBY	Via external pull-up resistor (min. 1.8kohm). Active by LOW state.
USB-A female socket	5V 2.5A power output

Product gallery



IGN-STBY



IGN Pin	STBY Pin	Description
$\geq +7V$	0V	Ignition is on
$< +7V$	VCC	Ignition is off

Dimensions

Width	65mm
Height	10mm
Length	30mm
Weight	15g

Example of usage

BWS CAR PS V1 can be used as an efficient power supply for the single board computers like Raspberry PI, Odroid, Arduino and many others. Please note that in case of some single board computers implementation of software debounce functionality might be necessary. Reference implementation can be found at <https://www.bluewavestudio.io/resources/bws-ps-installer.tar>.