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## PS-1A Adjustable Switch Mode DC-DC Regulator

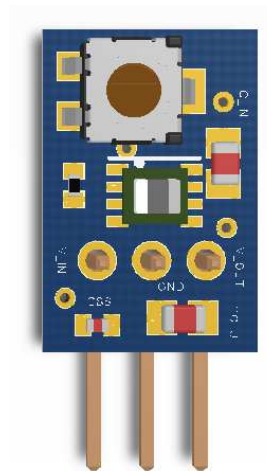
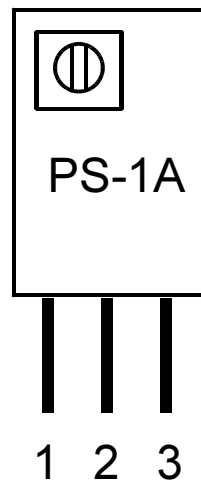
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### 1. Overview

PS-1A is an adjustable switch mode DC-DC converter that has the size and ease of use of linear regulators. PS-1A combines all the components required for a switch mode power supply to a compact 4 layer PCB. PS-1A is a three pin device in which the three pins are the power input, ground and power output. The overall size, pin layout and pin spacing is similar to the TO 220 package. The 2.54 mm

(100 mil) pin spacing of PS-1A makes it pluggable to standard breadboards for prototyping.

PS-1A accepts a wide input voltage range of 3V-17V. The output voltage range is 0.9V-6V with a maximum current output of 1A. The output voltage can be adjusted by turning a potentiometer.



### 2. Pin Assignment and Usage

PS-1 includes all the components required for a switch mode power supply. No external components are required for its operation.

Pin	Function
1	Voltage Input
2	Ground
3	Voltage Output

### 3. Recommended Operating Conditions

	Min	Max	Unit
Input Voltage	3	17	V
Output Voltage	0.9	6	V
Output Current	0	1	A
Output Power	0	6	W

### 4. Absolute Maximum Operating Conditions

	Value	Unit
Input Voltage	20	V

### 5. Using PS-1A in a Fixed Output Configuration

The output voltage of PS-1A is adjusted by turning a potentiometer. The potentiometer can be replaced by a fixed resistor to obtain a fixed voltage output from PS-1A. There is a footprint to solder a fixed value 0402 size resistor in order to do this. The following equation can be used to compute the value of the resistor required to obtain the desired voltage output.

$$R_F = 12100 \left( \frac{V_{OUT}}{0.8} - 1 \right) \Omega$$

### 6. Mechanical Dimensions

