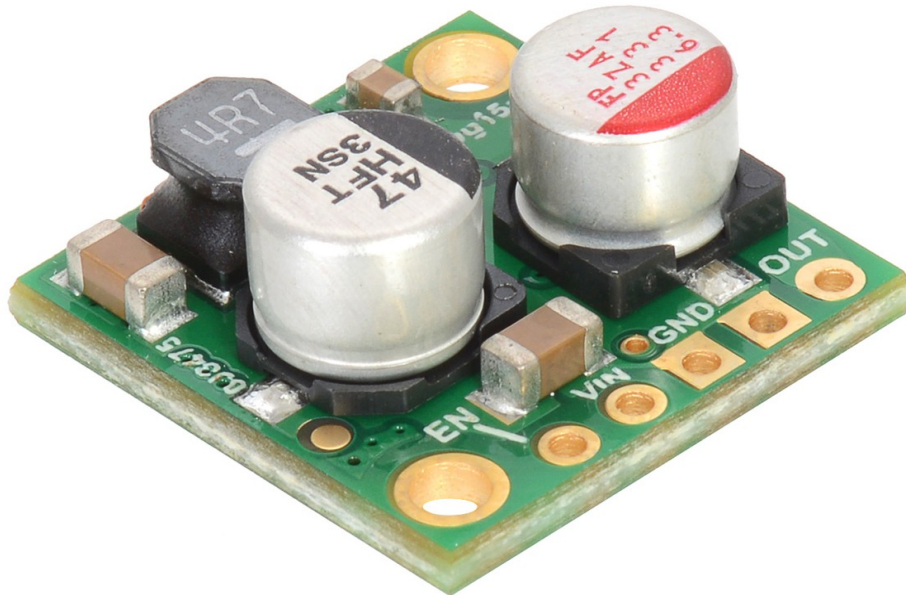


RB-Pol-267
5V, 2.5A Step-Down Voltage Regulator D24V25F5



This step-down (buck) regulator generates a fixed 5 V output from input voltages up to 38 V. It is a switching regulator (also called a switched-mode power supply (SMPS) or DC-to-DC converter) and has a typical efficiency between 85% to 95%. The available output current is a function of the input voltage and efficiency (see the Typical Efficiency and Output Current section below), but the input current can typically be as high as 2.5 A. The regulator has a typical quiescent current draw of less than 1 mA, and the ENABLE pin can be used to put the board in a low-power state that reduces the quiescent current to approximately 10 μ A to 20 μ A per volt on VIN. This regulator has built-in reverse-voltage protection, short-circuit protection, thermal shutdown, a soft-start feature that reduces inrush current, and an under-voltage lockout.

Features

- Input voltage: 6 V to 38 V (see below for more details on the regulator's dropout voltage, which affects the low end of the operating range)
- Fixed 5 V output (with 4% accuracy)
- Typical maximum continuous output current: 2.5 A
- Integrated reverse-voltage protection, over-current protection, over-temperature shutoff, soft-start, and under-voltage lockout
- Typical efficiency of 85% to 95%, depending on input voltage and load; the switching frequency automatically changes at light loads to maintain high efficiencies
- 700 μ A typical no-load quiescent current; can be reduced to 10 μ A to 20 μ A per volt on VIN by disabling the board
- Compact size: 0.7" x 0.7" x 0.35" (17.8 mm \times 17.8 mm \times 8.8 mm)
- Two 0.086" mounting holes for #2 or M2 screws