

## SP6136 Boost Regulator: 12V Input to 18V @ 0-2A Output

**Designed by:** Shahin Maloyan

**Part Number:** SP6136ER1

**Application Description:** High-voltage Point-of-Load

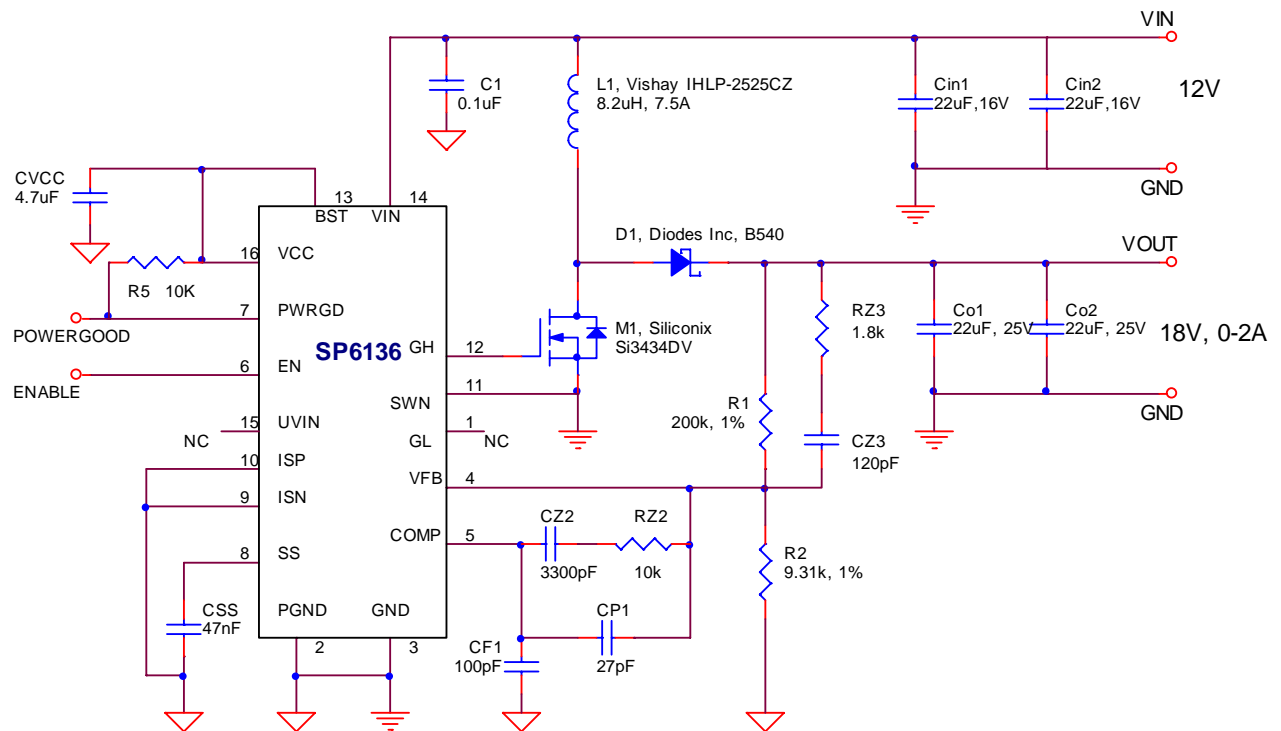
**Electrical Requirements:**

Input Voltage	12V
Output Voltage	18V
Output Current	0-2A

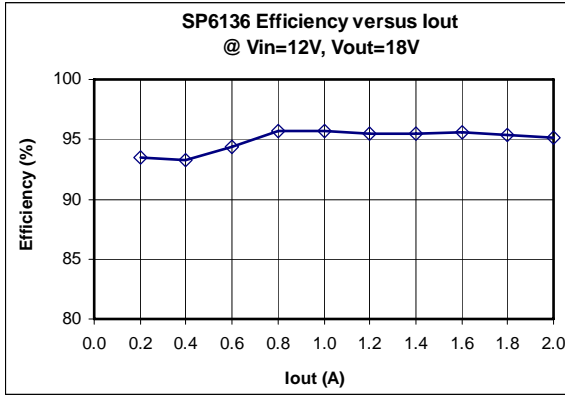
**Circuit Description:**

In this circuit SP6136 is configured as a boost converter to provide 18V output at 2A for Point-of-Load applications. The SP6136 is a high performance controller that provides the necessary functions required by a boost regulator: power-good output, adjustable UVLO and Enable input. High switching frequency (600kHz) minimizes solution cost and size.

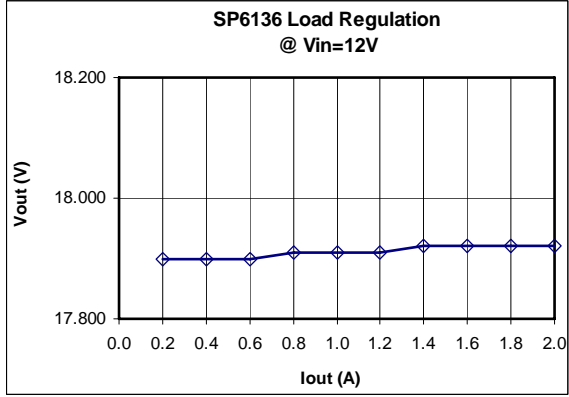
This report includes the application schematic complete with component part numbers and figures 1-7 illustrating electrical performance of the design.



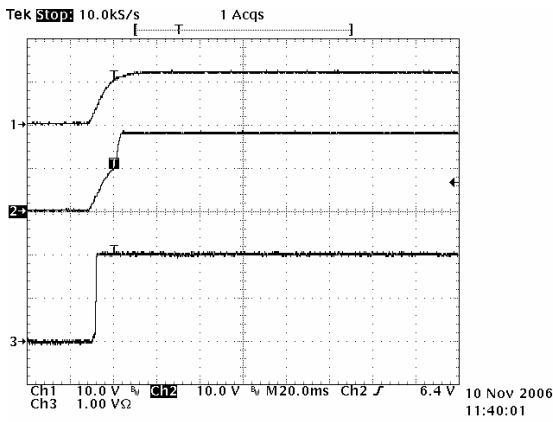
**Circuit Schematic**



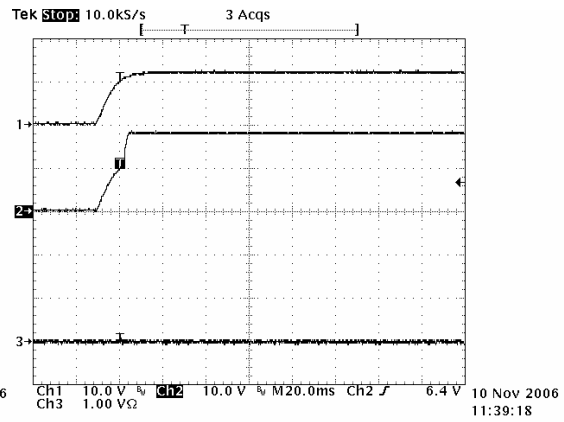
**Figure 1: Efficiency Graph**



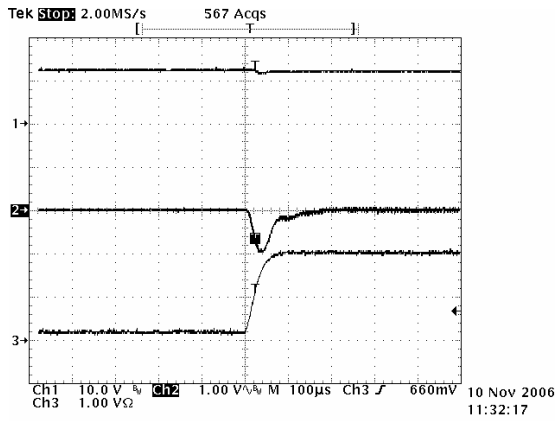
**Figure 2: VOUT Regulation Graph**



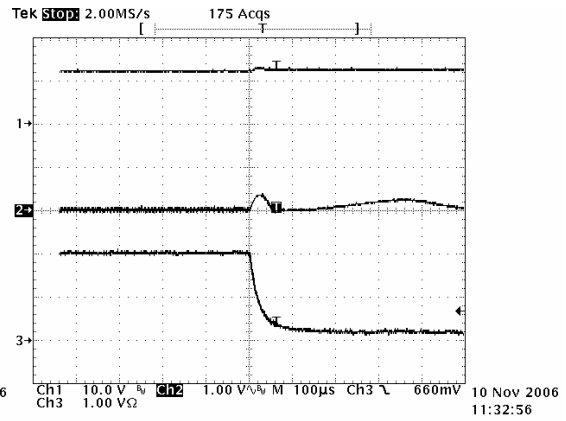
**Figure 3. Startup at Io=2A, ch1:Vin, Ch2: Vout, ch3: Iout**



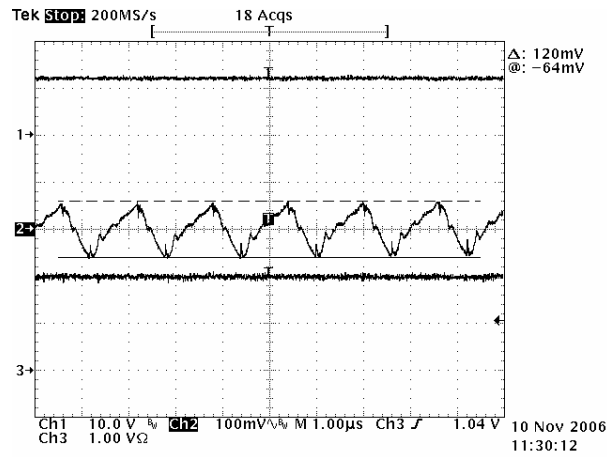
**Figure 4. Startup at Io=0A, ch1:Vin, Ch2: Vout, ch3: Iout**



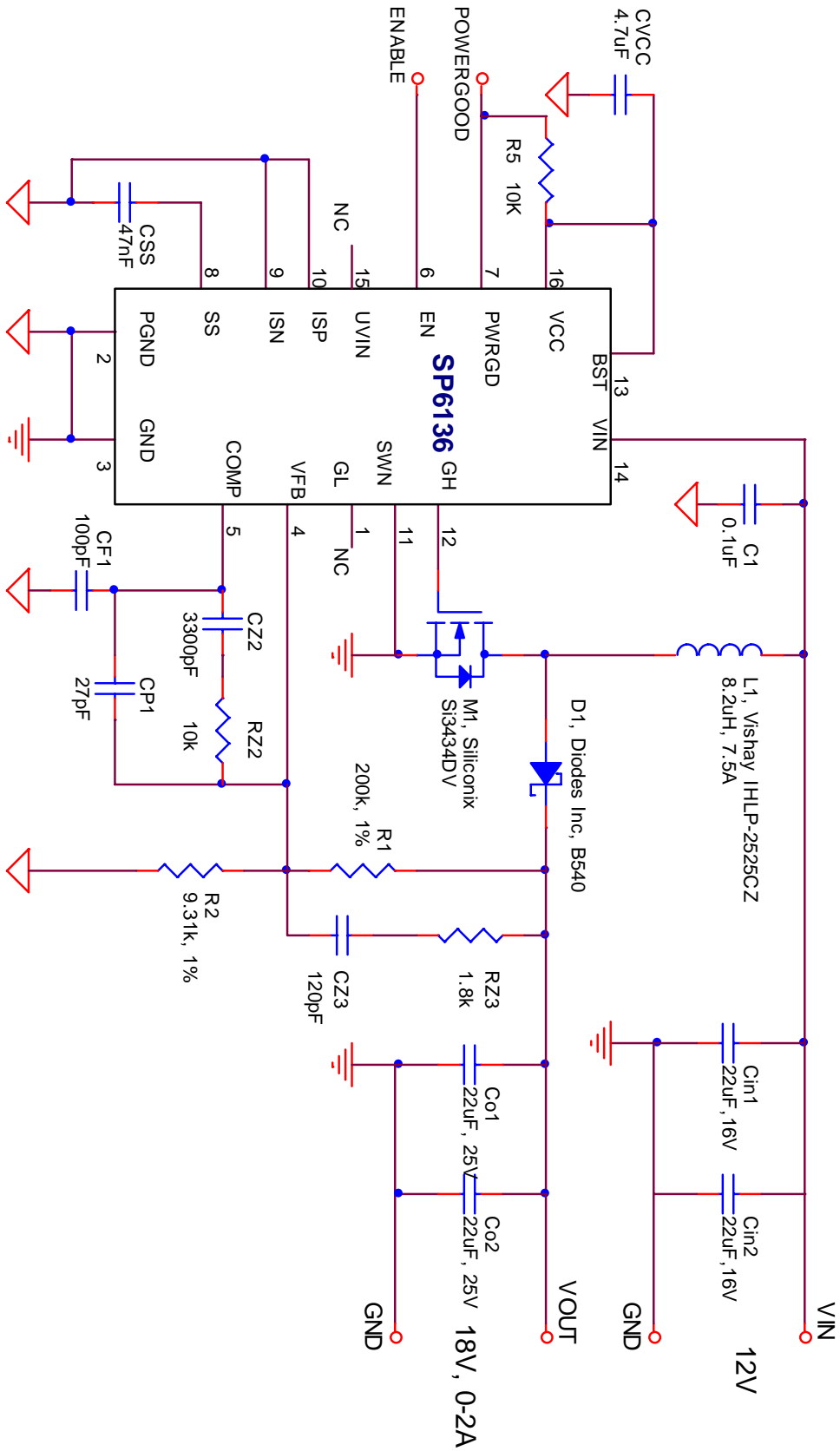
**Figure 5.** Step load 0.2-2A, ch1:Vin, Ch2: Vout, ch3: Iout



**Figure 6.** Step load 2-0.2A, ch1:Vin, Ch2: Vout, ch3: Iout



**Figure 7.** Output ripple is 120mV



For further assistance:

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