

28VIN 5A Synchronous 4-Switch Buck-Boost Converter

❖ **GENERAL DESCRIPTION**

The AX3601 is a wide input range fully integrated 4-switch synchronous buck-boost converter capable of regulating the output voltage at, above, or below the input voltage. The device employs the patented peak current mode with constant off-time control scheme that significantly simplifies control loop design and offers seamless transition between Buck, Buck-boost and Boost mode operations. Proprietary inductor DCR current sensing eliminates the need of external current sense resistor and improves system power efficiency. With external compensation, the AX3601 can be optimized to operate with a wide range of input and output voltage at all current level. The AX3601 comes with internal soft-start, programmable inductor peak current limit, input under-voltage and over-voltage lockout, hiccup mode for short circuit or overload protection and thermal shutdown. The high integration level of the AX3601 offers great ease of use and minimizes the external components as well as board space, The AX3601 is available with a small footprint 5mmx5mm 28-lead TQFN package.

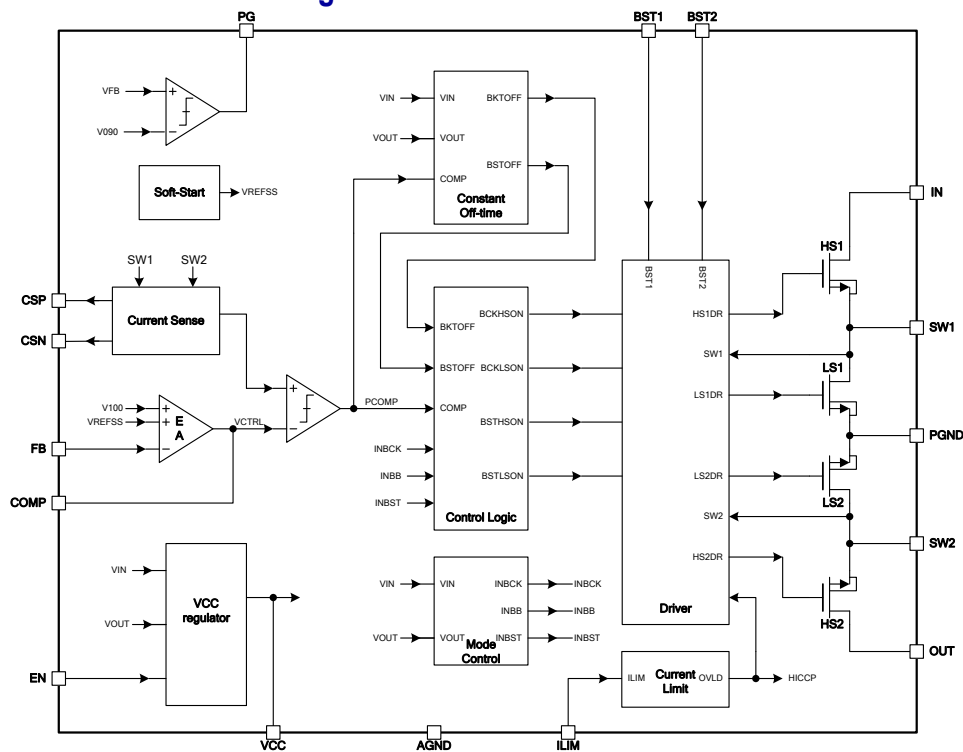
❖ **FEATURES**

- Input Voltage Range from 4V to 28V
- Output Voltage Range from 1V to 28V
- Integrated Four 12mΩ Power Switches with 20A Peak Current Capability
- Up to 5A Output Current
- Up to 97.5% Efficiency
- Inductor DCR Current Sensing
- Programmable Input Switch Current Limit
- Accurate EN Threshold Voltage
- 500kHz Switching Frequency
- Output Voltage Power Good Indicator
- Cycle-by-Cycle Peak Current Limit
- Short Circuit Protection with Hiccup Mode
- Thermal Shutdown
- Available in 5mmx5mm 28-Lead TQFN Package
- Pb-Free ROHS compliant
- RoHS and Halogen free compliance

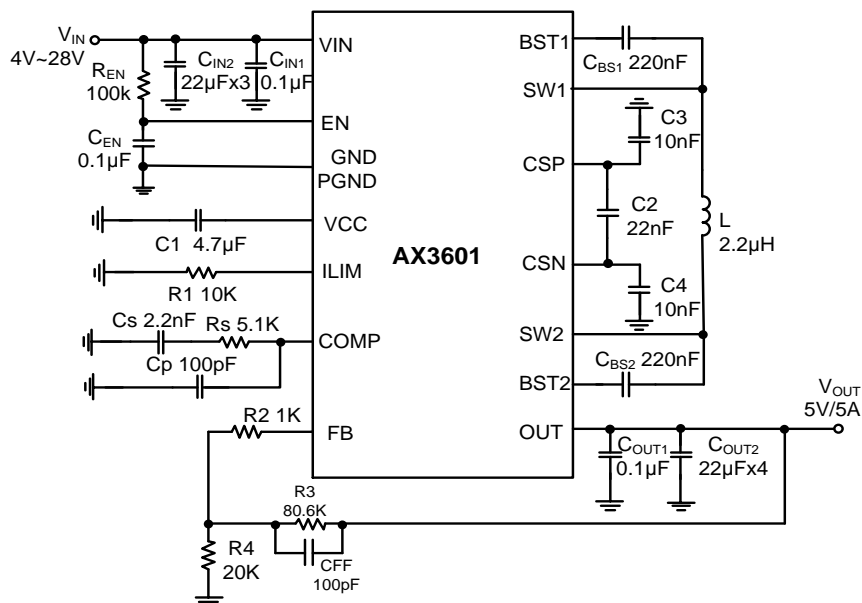
❖ APPLICATION

- USB Type C Hub
- 5V,9V,12V,20V and 24 VDC Bus Power
- Power Banks and Electronic Cigarette
- USB-PD and Thunderbolt Ports for PCs
- Tablet Computer Accessories
- Industrial Battery Powered Systems

❖ Functional Block Diagram



❖ Typical Application



❖ PIN ASSIGNMENT

The package of AX3601 is TQFN5*5-28L the pin assignment is given by:

