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**6A HV A synchronous 500kHz Boost Converter**

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**General Description**

The XA5012 is a monolithic asynchronous boost DC-DC converter. Its PWM circuitry with built-in 6A 60mΩ power MOSFET make this regulator highly power efficient.

The XA5012 has wide input voltage range from 2.9V~12V to support applications with single-cell or two-cell lithium batteries. The device could have 6A switching current capacity to provide an output voltage up to 14V.

The XA5012 uses current mode PWM control topology to regulate the output voltage. That works into power saving mode to get better efficiency for battery in light load condition. In heavy load condition, the XA5012 works into PWM operating mode.

The XA5012 non-inverting input of error amplifier connects to 0.6V precision reference voltage and internal soft-start function can reduce the inrush current. In addition, overvoltage protection, cycle by cycle over current protection, and thermal shutdown protection are designed into this chip.

The XA5012 is available in E-SOP-8L package and provides space-saving PCB for the application fields.

**Features**

- Input Voltage Range 2.9V~12V
- Adjustable Output Voltage Range 5V~14V
- Internal Fixed PWM frequency: 500kHz
- Precision Feedback Reference Voltage: 0.6V
- Internal 60mΩ, 6A, 16V Power MOSFET
- Internal Soft-start
- Over Temperature Protection
- Over Voltage Protection
- Cycle by Cycle Over Current Protection
- Package: E-SOP-8L

**Applications**

- Chargers
- LCD Displays
- LED Application
- Bluetooth Speaker
- Power Bank
- Handheld or Portable Devices