

## **1A, 0.25V Feedback Voltage Step-Down Switching Regulators for LED Driver**

### ❖ GENERAL DESCRIPTION

AX2001/A consists of step-down switching regulator with PWM control. These device include a reference voltage source, oscillation circuit, error amplifier, internal PMOS and etc.

AX2001/A provides low-ripple power, high efficiency, and excellent transient characteristics. The PWM control circuit is able to the duty ratio linearly from 0 up to 100%. An enable function, an over current protect function and short circuit protect function are built inside, and when OCP or SCP happens, the operation frequency will be reduced. Also, an internal compensation block is built in to minimum external component count.

With the addition of an internal P-channel Power MOS, a coil, capacitors, and a diode connected externally, these ICs can function as step-down switching regulators. They serve as ideal power supply units for portable devices when coupled with the SOP-8L package, providing such outstanding features as low current consumption. Since this converter can accommodate an input voltage up to 23V, it is also suitable for the operation via an AC adapter.

### ❖ FEATURES

- Input voltage : 4.5V to 23V
- Output voltage : 0.25V to  $V_{CC}$
- LED Backlight and High Power LED Application
- Duty ratio : 0% to 100% PWM control
- Oscillation frequency :
  - AX2001: 330KHz typ.
  - AX2001A: 500KHz typ.
- Enable/Disable function.
- Current Limit (CL), Thermal Shutdown and Short Circuit Protections (SCP).
- Built-in internal SW P-channel MOS.
- No output capacitor is stable.
- SOP-8L Pb-Free package.