

March 1997

DESCRIPTION

The SSI 32H6829 Servo and Spindle Predriver, a CMOS monolithic integrated circuit housed in a 64-lead TQFP package operates from +5 V and +12 V supplies. It is designed to drive a voice coil actuator and a 3-phase, Hall-sensorless motor with external power MOSFETs. The device is intended for use in 12 V disk drive applications.

The actuator driver includes a saturation detector to monitor the loop compensation amplifier for saturation, an uncommitted opamp for input signal conditioning, a voltage reference to provide a precise voltage level for internal PWM buffers, and reduced power dissipation.

The spindle driver includes a μ P controlled startup ramp to replace the imprecise analog ramp, an external PWM input to allow PWM frequencies above the audible range, active pullup on the P driver, adjustable N-channel slew rate, and improved spindle brake performance.

A precision low voltage monitor circuit is also added to monitor +5 V and +12 V supplies and to initiate servo head retracts during voltage faults.

The SSI 32H6829A is the SSI 32H6829 housed in a 48-lead TQFP package intended to be a drop-in, pin-for-pin replacement for the SSI 32H6825. As such the SSI 32H6829A does not implement the following functions of the SSI 32H6829: Voltage Reference, Voltage Fault, PWM Buffers, PSNS Comparator, and Dual Level Retract. Also, the 6825 $\overline{\text{WRPROT}}$ function is replaced with the similar but more useful $\overline{\text{SAT}}$ function.

FEATURES

- **Small footprint 64- or 48-lead TQFP package**
- **Spindle driver is PWM during run and start**
- **Commutator is driven by a phase lock loop for high jitter immunity**
- **Adjustable slew rate to minimize stress in the power MOSFETs**
- **Microprocessor controlled spindle startup**
- **Saturation detector to monitor loop compensation amplifier status**
- **Precision low voltage monitor circuitry for both +5 V and +12 V supplies, 32H6829 only**
- **Dual level retract scheme includes adjustable pulse mode, 32H6829 only**

BLOCK DIAGRAM

