L6260J-DIE

3.3V DISK DRIVER SPINDLE & VCM, POWER & CONTROL COMBO'S

DATA BRIEF

1 GENERAL FEATURES

- BICMOS TECHNOLOGY
- 3.3V OPERATION REGISTER BASED ARCHITECTURE
- MINIMUM EXTERNAL COMPONENTS
- SLEEP AND IDLE MODES FOR LOW POWER CONSUMPTION
- SELECTABLE GAINS FOR BOTH V.C.M. AND SPINDLE
- 10 BIT (+ SIGN + GAIN) VCM & 8 BIT SPINDLE DACs
- HIGH BANDWIDTH SPEED REGULATION LOOP (ONCE PER MECH\ELEC CYCLE ACCURACY)

1.1 VCM DRIVER

- CURRENT SENSE CONTROL (VOLTAGE PROPORTIONAL TO CURRENT)
- 300mA DRIVE CAPABILITY
- TWO CURRENT RANGES FOR SEEKING AND TRACKING
- INTERNAL REGISTER FOR POWER AMP CONTROL LINES

1.2 SPINDLE DRIVERS

- BEMF PROCESSING FOR SENSORLESS MOTOR COMMUTATION
- PROGRAMMABLE COMMUTATION PHASE DELAY
- PROGRAMMABLE SLEW-RATE FOR REDUCED E.M.I.
- 0.8Ω FOR ANY HALF BRIDGE WORST CASE
- SYNCHRONOUS RECTIFICATION OF THE B.E.M.F. DURING RETRACT OPERATION
- BIPOLAR \ TRIPOLAR OPERATION
- SYNTHESIZED HALL OUTPUTS
- 1.0 AMP DRIVE CAPABILITY

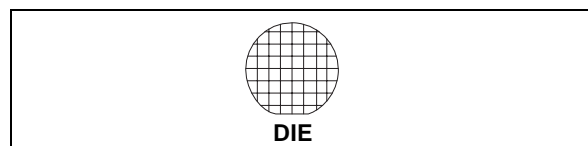### 1.3 OTHER FUNCTIONS

- POWER UP SEQUENCING

Figure 1.

DIE

Table 1. Order Codes

Part Number	
L6260J-DIE	DIE

- POWER DOWN SEQUENCING
- LOW VOLTAGE SENSE
- ACTUATOR RETRACTION
- DYNAMIC BRAKE
- THERMAL SHUTDOWN
- THERMAL & CURRENT PROTECTION

2 DESCRIPTION

The L6260J-DIE is a single chip sensorless (DC) spindle motor and voice coil controllers including power stages suitable for use in small disk drives. This device has a serial interface for a microprocessor running up to 10 Mega bits per second. There are registers on chip to allow the setting of the desired spindle speed via the on chip Frequency Locked Loop (F.L.L.). No external components are required in the sensor-less operation as the control functions are integrated on chip (e.g. B.E.M.F. processing, digital masking, digital delay and sequencing).

The V.C.M. drivers uses a transconductance amplifier, able to provide 2 different current ranges, suitable for seeking and tracking.

When a low voltage is detected, a Power On Reset (P.O.R.) is issued and the internal registers are reset, the spindle power circuitry is tri-stated, B.E.M.F. synchronous rectification is enabled, the actuator retracts and then dynamic braking of the spindle is applied.

This device is built in BICMOS technology allowing dense digital circuitry to be combined with MOS\Bipolar power devices.
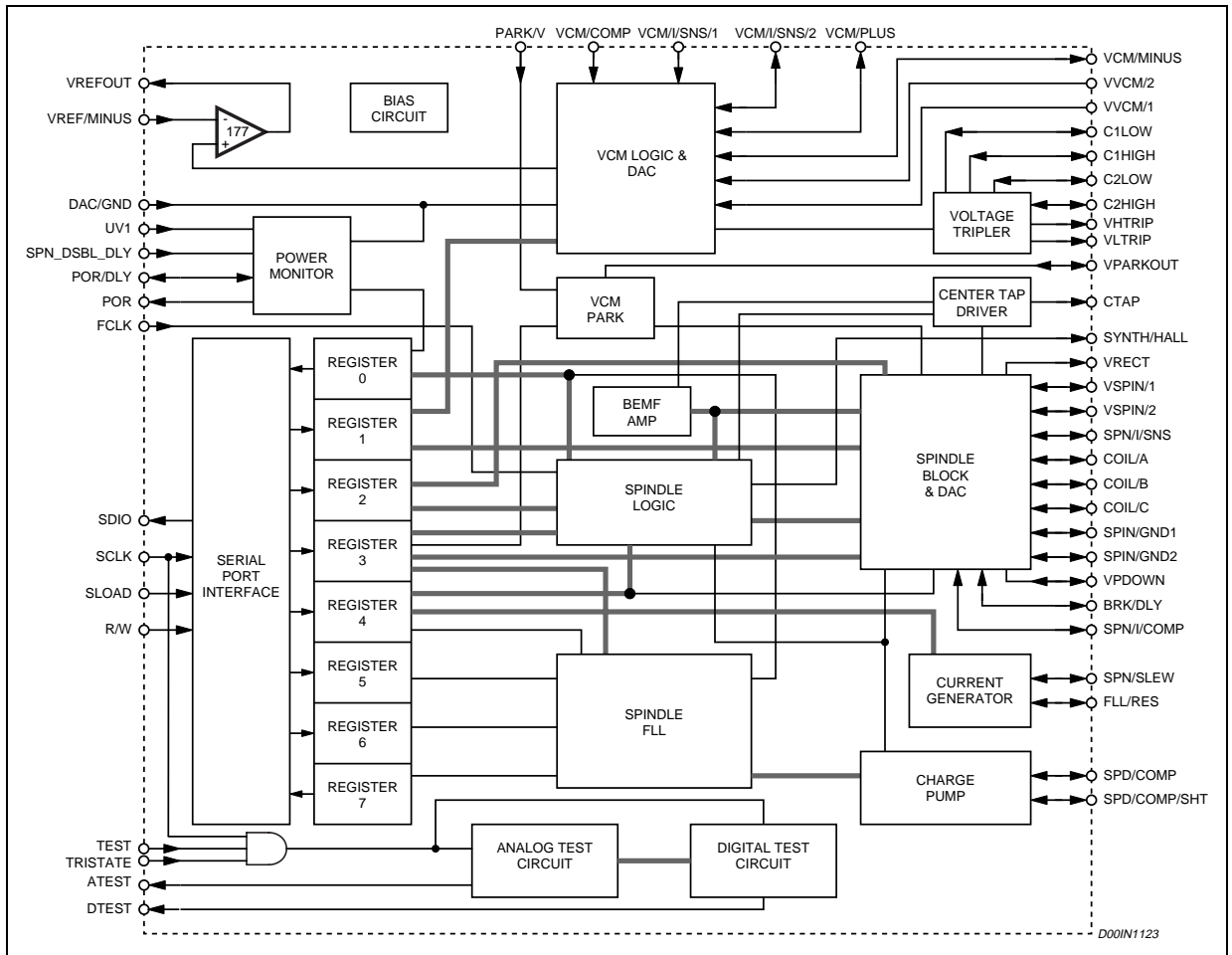
REV. 1

Figure 2. Block Diagram

Table 2. Revision History

Date	Revision	Description of Changes
June 2004	1	First Issue