

September 1997

DESCRIPTION

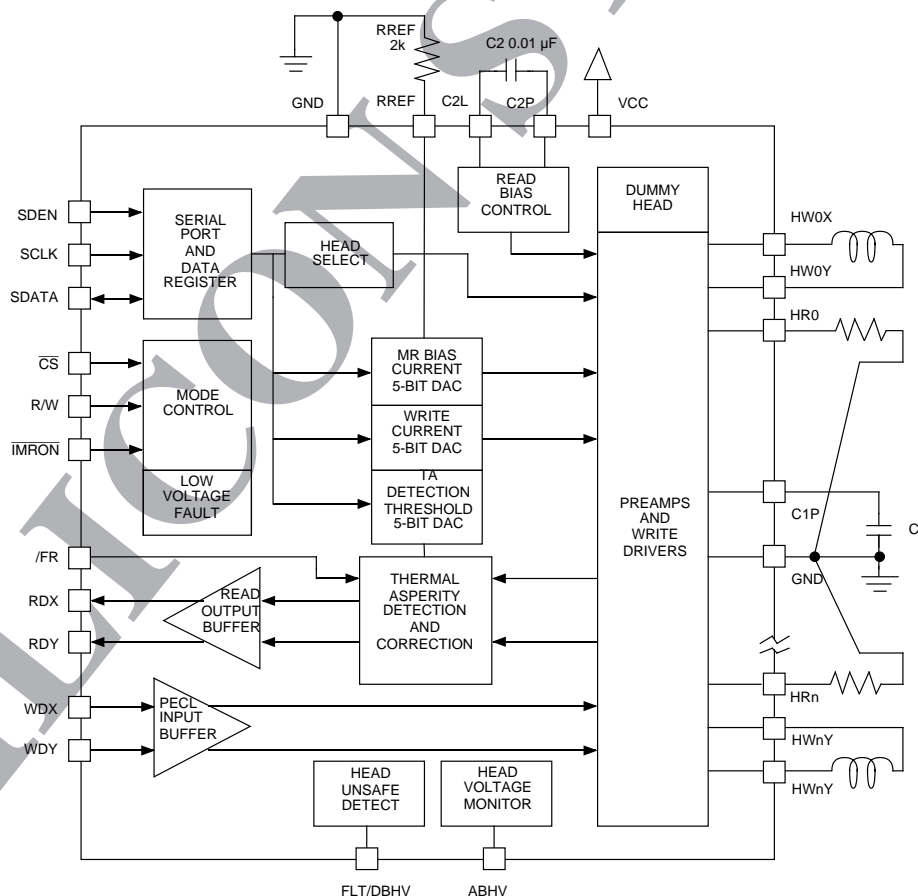
The SSI 32R1606R is a BiCMOS monolithic integrated circuit designed for use with 4-terminal magneto-resistive read and thin film write composite recording heads. It provides a low noise MR head amplifier, MR bias current control, thin film write driver, write current control, thermal asperity detection and correction, and TFH fault detection circuit for up to eight channels. The device features programmable read gain, write damping resistance and thermal asperity threshold level. The device allows multiple channel write functions for servo writing. Half or all of the heads can be simultaneously selected in the servo write mode. Control of features and thresholds is provided through a serial port interface. The SSI 32R1606R requires a single 5 V supply.

FEATURES

- One side grounded input, fully differential output
- Unselected read/write heads at GND potential
- Thermal asperity detection and compensation
- Fast recovery mode
- MR resistor measurement mode
- MR bias current range = 5.5 to 15.85 mA (5-bit)
- MR resistor range = 25 to 41 Ω
- Programmable read gain = 200 V/V or 300 V/V @ 33 Ω 10 mA
- Input equivalent noise 0.75 nV $\sqrt{\text{Hz}}$ @ 33 Ω
- Read frequency boost

(continued)

BLOCK DIAGRAM



SSI 32R1606R

+5 V, 8-Channel

MR Read/Write Device

FEATURES (continued)

- Write current range = 14 to 45 mA (5-bit)
- Programmable write damping resistor (2-bit)
- PECL no flip-flop
- Rail to rail head swing
- Servo write (half bank, all bank write)
- Power fault protection

SILICON SYSTEMS