

February 1998

### DESCRIPTION

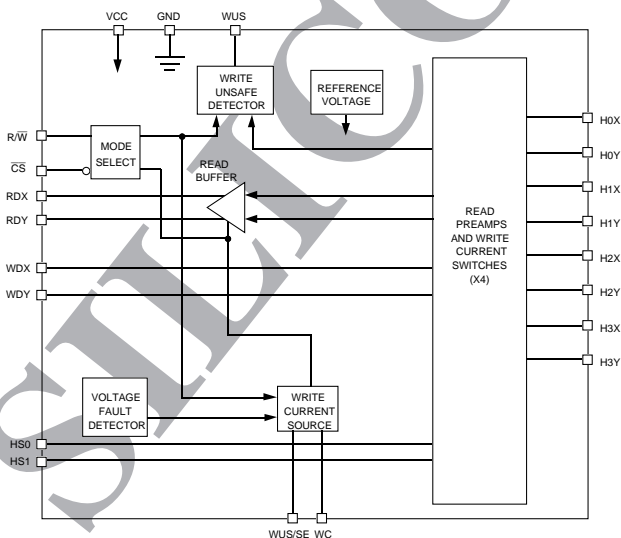
The SSI 32R2410R/12R are BiCMOS monolithic integrated circuits designed for use with two-terminal recording heads. They provide a low noise read amplifier, write current control, and data protection circuitry for up to four channels. The SSI 32R2410R/12R option provides internal 350  $\Omega$  damping resistors. Damping resistors are switched in during write mode and switched out during read mode. Power supply fault protection is provided by disabling the write current generator during power sequencing. System write to read recovery time is significantly improved by making the read channel outputs high impedance. The device also offers multiple channel "servo bank write" capability to assist in servo writing operations.

The SSI 32R2410R/12R requires only a +5 V power supply and are available in a variety of packages.

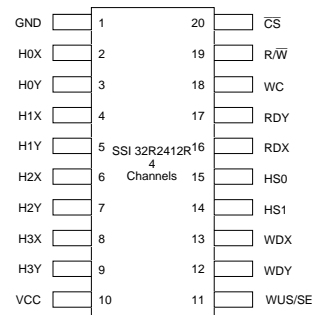
### FEATURES

- +5 V  $\pm 10\%$  supply
- Low power
  - PD = 150 mW read mode (nominal)
  - PD = 1.0 mW idle (nominal)
- High Performance:
  - Read mode gain = 285, 350 V/V
  - Input noise = 0.45 nV/ $\sqrt{\text{Hz}}$  (nominal)
  - Input capacitance = 6 pF (nominal)
  - Write current range = 3-20 mA
  - Nominal write current (10 mA) rise/fall time = 2.3 ns (nominal) (0.5  $\mu\text{H}$  head)
  - Head voltage swing = 8 Vp-p (nominal)
- Servo bank write capability
- Self switching damping resistance
- Write unsafe detection
- Pin compatible with the SSI 32R2210R/11R/12R
- Power supply fault protection
- Head short to ground protection
- Differential ECL-like (SSI 32R2410R/12R) or
- Write data flip-flop (SSI 32R2410R) or no flip-flop (SSI 32R2412R)

### BLOCK DIAGRAM



### PIN DIAGRAM



20-Lead SOV, SOL

CAUTION: Use handling procedures necessary for a static sensitive component.