

January 1995

DESCRIPTION

The SSI 32R2110R/2111R are BiCMOS monolithic integrated circuits designed for use with two-terminal recording heads. They provide a low noise read amplifier, a high performance write driver, write current control, and data protection circuitry for up to 24 channels. The SSI 32R2110R/2111R option provides internal 350Ω damping resistors. Damping resistors are switched in during write mode and switched out during read mode. The SSI 32R2110R/2111 option does not provide damping resistors. 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.

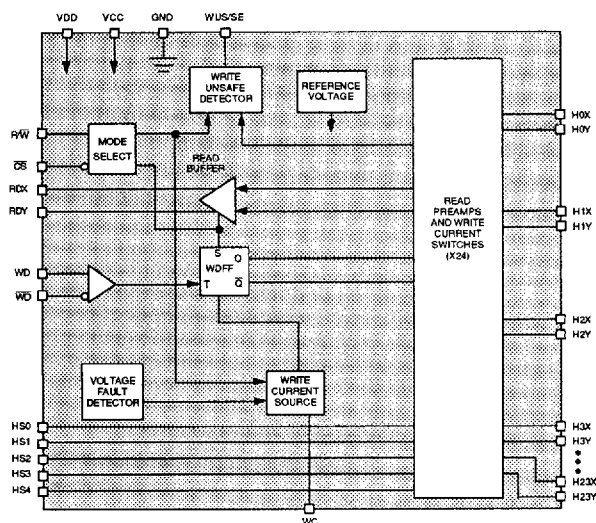
The SSI 32R2110R/2111R requires 5V and 12V power supplies. The SSI 32R2110R provides PECL write data input. The SSI 32R2111R provides TTL write data input.

FEATURES

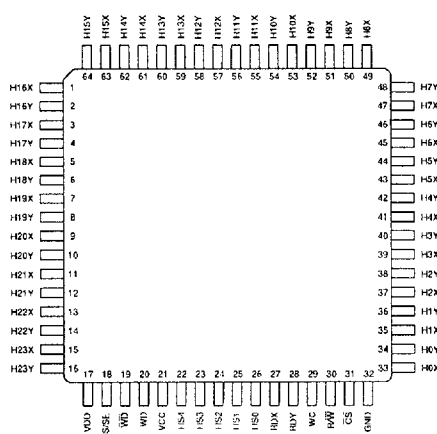
- 5V ±10%, 12V ±10% supply
- Low power
 - PD = 235 mW read mode (Nom)
 - PD = 12 mW idle (Max)
- High Performance:
 - Read mode gain = 250 V/V
 - Input noise = 0.45 nV/√Hz (Nom)
 - Input capacitance = 10 pF (Nom)
 - Write current range = 10-40 mA
 - Max write current rise/fall time = 7 ns (typical head)
 - Head voltage swing = 11 Vp-p min
- Servo bank-write capability
- Self switching damping resistance
- Write unsafe detection
- Power supply fault protection
- Head short to ground protection
- Differential ECL-like (32R2110R) or TTL (32R2111R) write data inputs

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BLOCK DIAGRAM



PIN DIAGRAM



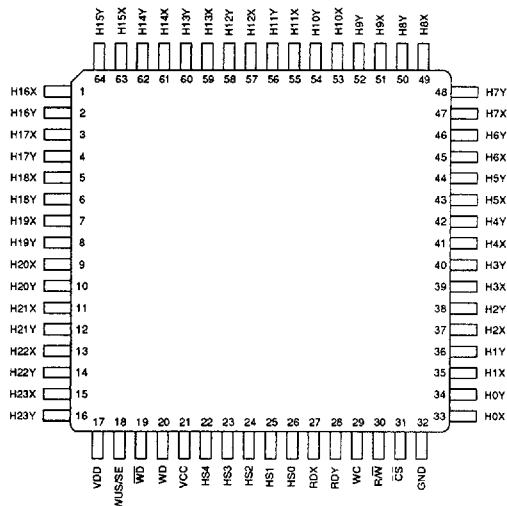
**32R2110R 24-Channel,
64-Lead TQFP PECL Input**

The target specification is intended as an initial disclosure of specification goals for the product. The specifications are based on design goals, subject to change and are not guaranteed. Silicon Systems assumes no obligation regarding future manufacture unless agreed to in writing.

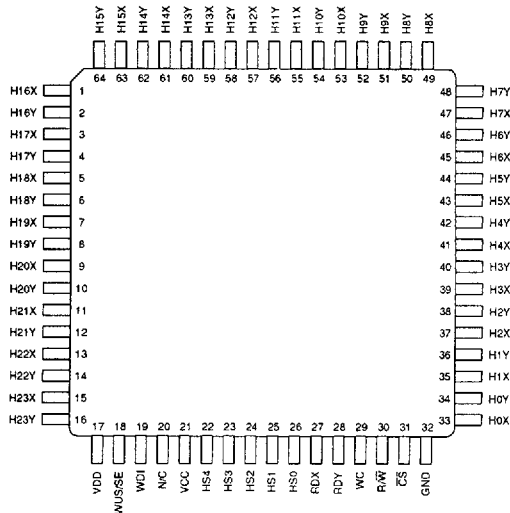
SSI 32R2110R/2111R 24-Channel Thin Film Read/Write Devices

PACKAGE PIN DESIGNATIONS

(Top View)



**32R2110R 24-Channel,
64-Lead TQFP PECL Input**



**32R2111R 24-Channel,
64-Lead TQFP TTL Input**

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

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