

## DESCRIPTION

The SSI 34R3435 requires both a +5 V and +12 V power supply and is available in a 24-Lead VSOP package.

- **+5 V  $\pm$ 10% supply and +12 V  $\pm$ 10% supply**
- **Low power 3 mA idle mode current**
- **High performance:**
  - **MR read mode gain = 100 V/V**
  - **TFH read mode gain = 300 V/V**
  - **MR input current noise = 3.2 pA/ $\sqrt{\text{Hz}}$  max**
  - **MR input capacitance = 5 pF nom**
  - **Write current range = 5.4 - 55 mA**
- **Write unsafe detection**
- **Power supply fault protection**
- **Head short to ground protection**
- **Write-mode head swing 8 Vp-p diff (typical)**
- **24-Lead VSOP package**
- **Serial port controllable write current and read bias**
- **Serial port controllable flip-flop**
- **Head open or shorted detection**

The block diagram illustrates the internal architecture of the AD7714 ADC system. Key components and their connections include:

- Inputs:** HWX, HWY, HRX, HRY, MRS, IMR, and VDD are connected to the left side of the system.
- Read Preamplifiers:** Two READ PREAMP blocks receive inputs from HWX/HWY and HRX/HRY. Their outputs are connected to the input of the WRITE DRIVER and the input of the READ BUFFER.
- Write Driver and Flip-Flop:** The WRITE DRIVER is connected to a FLIP-FLOP, which provides control signals to the READ PREAMP and READ BUFFER.
- Control and Status:** The CTRL block has inputs for CS, R/W, and RHS. The WUS block has an output for VFAULT.
- Data Path:** The READ BUFFER outputs RDY and RDX. The SERIAL PORT block has inputs for SCLK, SDEN, and SDATA. The DAC block has inputs for VCC1 and VCC2.
- Power and Grounding:** The system is powered by VDD and VCC1/VCC2. Grounding is provided by AGND and DGND. A current source (represented by a circle with an arrow) is connected to the IMR input and the DAC block.

WDI	1	24	N/C
VCC2	2	23	SDEN
DGND	3	22	SCLK
HWX	4	21	SDATA
HWY	5	20	R/W
HRX	6	SSI 34R3435 19	RHS
MRS	7	18	RDX
HRY	8	17	RDY
IMR	9	16	RBIA5
AGND	10	15	/VFAULT
VDD	11	14	/CS
VCC1	12	13	AGND

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