



**LD3511-XX**  
**4, 6, up to 8 Channel**  
**+5V, +8V GMR Head Preamplifier**  
**Samples Available**

## DESCRIPTION

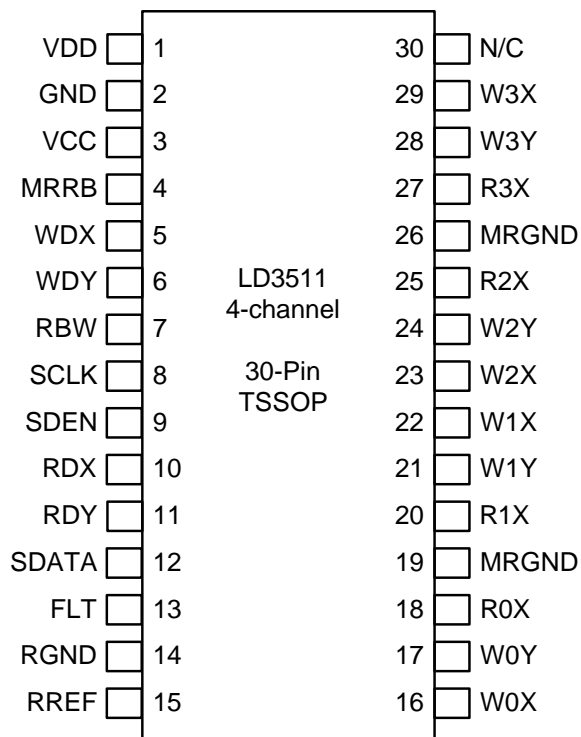
The LD3511-XX is a high performance BiCMOS, read/write preamplifier IC, designed for use with 4-terminal GMR recording heads. The device provides a low noise GMR head amplifier, DC bias current control for GMR head, 8V thin film write driver, write current control to the write current drivers, thermal asperity (TA) detection and correction. Fast recovery mode can be also programmed to put the chip faster in read mode from any other existing modes. The device is programmable for read gain, write overshoot and undershoot, fast recovery, GMR resistance measurement and thermal asperity threshold level. The device features multiple channel write. Half or all of the heads can be simultaneously selected in the servo write mode. Features and thresholds are controlled through a 3-line serial interface with readback. This product requires a 5V & 8V supplies. This device also provides PLR circuit, and on-chip temperature monitor function. This device is available in flip-chip or TSSOP 30 & 38-Pin packages.

## FEATURES

- Current Bias/Current Sense Architecture
- Operates from 5V and 8V supply
- 3-line serial interface with readback (3.3V CMOS compatible)
- Power fault protection
- Power management modes
- On-chip temperature monitor
- External reference resistor (2Kohm)
- Head unsafe fault detection for both read and write
- Unselected read/write heads at GND potential
- Fast recovery mode
- 300MHz Read Bandwidth
- One side grounded input, fully differential output
- Read frequency boost
- Programmable GMR resistance measurement mode (5-bits)
- Programmable GMR Pinned Layer Reset (PLR) pulse circuit
- GMR bias current range 2-9.75 mA (5-bits)
- GMR resistor range = 25 to 75  $\Omega$
- Programmable read gain = 225 V/V or 300 V/V
- Input equivalent noise TBD  $nV\sqrt{Hz}$  @  $R_{mr} = 45\Omega$
- TA detection & programmable compensation
- 0.75ns Write rise/fall time ( $L=90$  nH/40 mA)
- Write current range = 15-60 mA (5-bits)
- Programmable write current overshoot (4-bits)
- Programmable write current undershoot (3-bit)
- 200ns Write/Read switching time
- Servo write (half bank or all bank write)
- Integrated Reader low freq. blocking Capacitor



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