

TLS21C64-3DB

5 V Thin-Film 4-Channel Low-Noise Read/Write Preamplifiers

Preproduction

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DESCRIPTION

The TLS21C64-3DB are a BiCMOS, monolithic preamplifier family designed for two-terminal thin-film or MIG recording heads. The device provides data protection circuitry for all channels with low-noise read paths and write-current controls. When deactivated, the device enters an idle mode that reduces power dissipation to 0.5 mW. The write current generator is disabled during power sequencing to provide power supply fault protection.

During write and idle modes, the RDX and RDY lines are put into a high impedance state in order to improve system write-to-read and idle-to-read recovery times. The servo write feature allows increased throughput at the servo-write stage. Isolated damping resistors effectively switch out the resistance during read operations by Schottky diode.

TLS21C64-3DB has the shield line pin located adjacent to outer head pins to minimize the effect of mutual inductance.

FEATURES

- **5 V $\pm 10\%$ power supply**
- **Low power dissipation:**
 - Read mode 105 mW typ
 - Idle mode 0.5 mW typ
- **High performance:**
 - Read mode gain 300 V/V typ
 - Input noise 0.50 nV/ $\sqrt{\text{Hz}}$ typ
 - Input capacitance 8.5 pF typ
 - Write current range 3 mA to 15 mA (TBD)
- **Bank write function**
- **Designed for two-terminal thin-film or metal-in-gap (MIG) recording head**
- **Programmable write-current source**
- **Power supply fault protection**
- **Write unsafe detection**
- **Schottky - isolated damping resistor**
- **Power up/down protection**
- **Differential write voltage 7.5 Vp-p typ**

BLOCK DIAGRAM

