

LM6152 Dual and LM6154 Quad High Speed/Low Power 45 MHz Rail-to-Rail I/O Operational Amplifiers

General Description

Using patent pending circuit topologies, the LM6152/54 provides new levels of speed vs power performance in applications where low voltage supplies or power limitations made compromise necessary. With only 1.5 mA/amp supply current, the 45 MHz bandwidth of this device supports new portable applications where higher power devices unacceptably drain battery life.

In addition, the LM6152/54 can be driven by voltages that exceed both power supply rails, thus eliminating concerns over exceeding the common-mode voltage range. The rail-to-rail output swing capability provides the maximum possible dynamic range at the output. This is particularly important when operating on low supply voltages. The LM6152/54 can also drive capacitive loads without oscillating.

Operating on supplies of 1.8V to over 24V, the LM6152/54 is excellent for a very wide range of applications, from battery operated systems with large bandwidth requirements to high speed instrumentation.

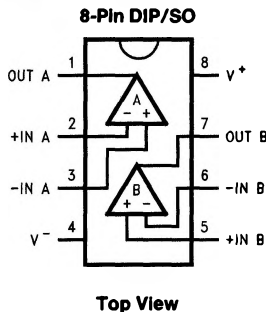
Features (For 5V Supply)

- Rail-to-rail input CMVR $-0.25V$ to $5.25V$ (max/min)
- Rail-to-rail output swing $0.01V$ to $4.99V$ (max/min)
- Wide gain-bandwidth: 45 MHz (typ) @ 50 kHz
- Slew rate 30 V/ μ s (typ)
- Low supply current 1.5/Amp (typ)
- Wide supply range 1.8V to 24V
- Fast settling time:
 - Gain 108 dB (typ) with $R_L = 10k$
 - PSRR 87 dB (typ)

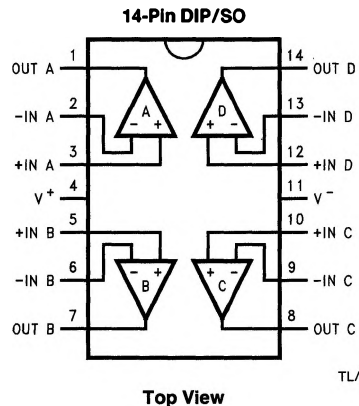
Applications

- Portable high speed instrumentation
- 5V signal conditioning amplifiers/ADC buffers
- Bar code scanners
- Wireless communications

Connection Diagrams



TL/H/12350-1



TL/H/12350-2

Ordering Information

| Package | Temperature Range | NSC Drawing |
|----------------------|--|-------------|
| | Industrial $-40^{\circ}C$ to $+85^{\circ}C$ | |
| 8-Pin Molded DIP | LM6142AIN, LM6142BIN | N08E |
| 8-Pin Small Outline | LM6142AIM, LM6142BIM | M08A |
| 14-Pin Molded DIP | LM6144AIN, LM6144BIN | N14A |
| 14-Pin Small Outline | LM6144AIM, LM6144BIM | M14A |