

# ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.

8/97



## SOT23, 300MHz, Single-Supply, Gain of +2V/V, Closed-Loop, Rail-to-Rail Buffers with Enable

### General Description

The MAX4214/MAX4215 single, MAX4217 dual, MAX4219 triple, and MAX4222 quad precision, closed-loop, gain of +2V/V, single-supply buffers feature high slew rate, high output current drive, low noise, and low differential gain and phase errors. These devices operate from a +3.3V to +10V single supply or from  $\pm 1.65V$  to  $\pm 5V$  dual supplies. The input common-mode voltage range extends 200mV beyond the negative power-supply rail, and the output swings Rail-to-Rail®.

The MAX4214 family of buffers require only 5.5mA of quiescent supply current while achieving a 300MHz -3dB bandwidth and a 600V/ $\mu$ s slew rate. Input voltage noise is only 10nV/ $\sqrt{Hz}$ , and input current noise is only 1.3pA/ $\sqrt{Hz}$ . These devices are ideal for low-power/low-voltage applications that require wide bandwidth, such as video, communications, and instrumentation systems. The MAX4215/MAX4219 have a disable feature that reduces power-supply current to 350 $\mu$ A (max) and places the outputs into a high-impedance state. When disabled, these devices have a 1k $\Omega$  output impedance, making them well suited for multiplexing applications.

### Applications

Battery-Powered Instruments  
Video Line Drivers  
Analog-to-Digital Converter Interface  
CCD Imaging Systems  
Video Routing and Switching Systems  
Video Multiplexing Applications

### Selector Guide

PART	NUMBER OF AMPLIFIERS	ENABLE	PIN-PACKAGE
MAX4214	1	No	5 SOT23
MAX4215	1	Yes	8 SO
MAX4217	2	No	8 SO/ $\mu$ MAX
MAX4219	3	Yes	14 SO 16 QSOP
MAX4222	4	No	14 SO 16 QSOP

Rail-to-Rail is a registered trademark of Nippon Motorola Ltd.

### Features

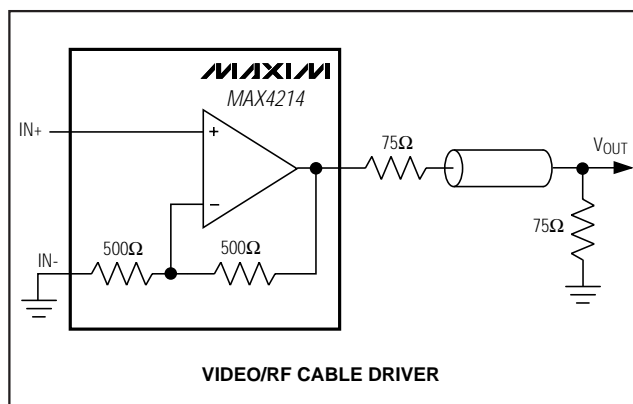
- ♦ **High Speed:**
  - 300MHz -3dB Bandwidth (MAX4214/15)
  - 200MHz -3dB Bandwidth (MAX4217/19/22)
  - 50MHz 0.1dB Gain Flatness (MAX4214/15)
  - 600V/ $\mu$ s Slew Rate
- ♦ **+3.3V/+5V Single-Supply Operation**
- ♦ **Input Common-Mode Range Extends Beyond V<sub>EE</sub>**
- ♦ **0.02%/0.02° Differential Gain/Phase**
- ♦ **Low Distortion at 5MHz:**
  - 78dBc Spurious-Free Dynamic Range
  - 75dB Total Harmonic Distortion
- ♦  **$\pm 100mA$  Output Drive**
- ♦ **5.5mA Supply Current**
- ♦ **Shutdown Capability: I<sub>S</sub> < 350 $\mu$ A (MAX4215/19)**
- ♦ **High Output Impedance in Off State (MAX4215/19)**
- ♦ **Space-Saving SOT23-5,  $\mu$ MAX, or QSOP Packages**

### Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE	SOT TOP MARK
MAX4214EUK-T	-40°C to +85°C	5 SOT23-5	ABAH
MAX4215ESA	-40°C to +85°C	8 SO	—
MAX4217ESA	-40°C to +85°C	8 SO	—
MAX4217EUA	-40°C to +85°C	8 $\mu$ MAX	—

Ordering Information continued on next page.

### Typical Operating Circuit



Maxim Integrated Products 1

For free samples & the latest literature: <http://www.maxim-ic.com>, or phone 1-800-998-8800.  
For small orders, phone 408-737-7600 ext. 3468.

MAX4214/MAX4215/MAX4217/MAX4219/MAX4222

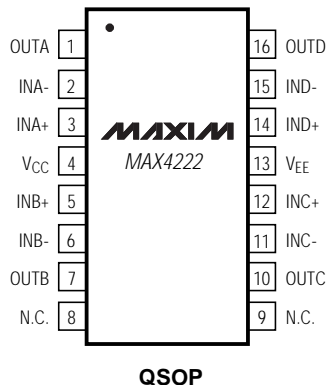
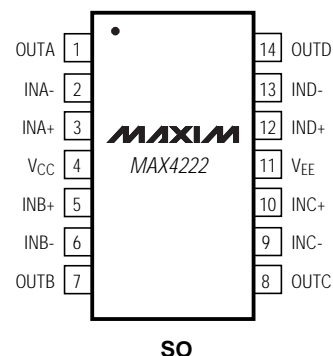
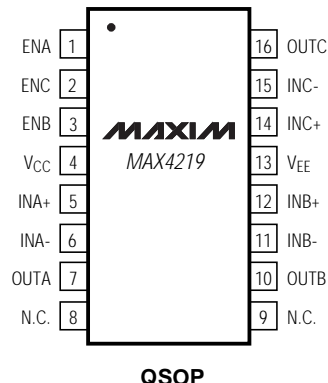
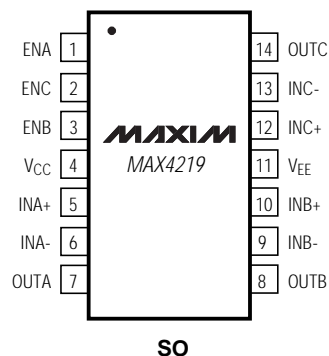
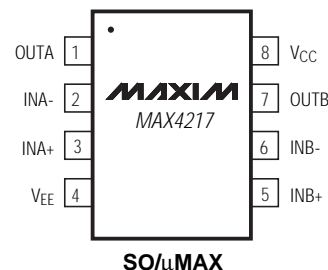
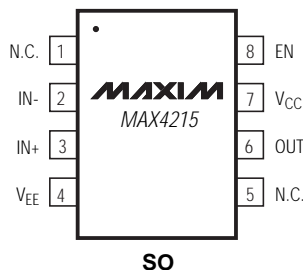
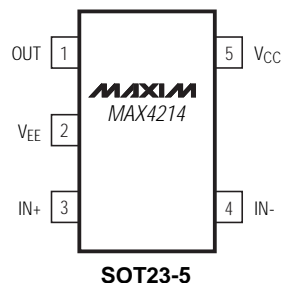
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## \_Ordering Information (continued)

PART	TEMP. RANGE	PIN-PACKAGE	SOT TOP MARK
<b>MAX4219</b> ESD	-40°C to +85°C	14 SO	—
MAX4219EEE	-40°C to +85°C	16 QSOP	—
<b>MAX4222</b> ESD	-40°C to +85°C	14 SO	—
MAX4222EEE	-40°C to +85°C	16 QSOP	—

## Pin Configurations

TOP VIEW



N.C. = NOT INTERNALLY CONNECTED