ADVANCE INFORMATION

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

8/97

MAXIM

Single/Dual/Quad, 1.8V Micropower, SOT23, Rail-to-Rail I/O Op Amps

General Description

The MAX4240–MAX4244 op amps operate from a +1.8V to +5.5V single supply and have Rail-to-Rail® input and output capabilities. These op amps have a 100kHz gain-bandwidth product while using only 10µA of supply current per amplifier in normal operation. The MAX4241/MAX4243 have a low-power shutdown mode that reduces supply current to less than 1µA and forces the output into a high-impedance state. The combination of ultra-low-voltage operation, rail-to-rail inputs and outputs, and low power consumption makes these devices ideal for any portable/two-cell battery-powered systems.

These devices have an input common-mode range that extends 200mV beyond each rail. Their output typically swings to within 30mV of the rails with a 10kΩ load. These rail-to-rail input and output characteristics allow full power-supply voltage to be used for signal range. The combination of low input offset voltage, low input bias current, and high open-loop gain makes them suitable for many low-power, precision applications.

The MAX4240 is offered in a space saving 5-pin SOT23 package. The MAX4240 family specifications are guaranteed over the -40°C to +85°C extended temperature range.

Applications

Two-Cell Battery-Powered Systems
Portable Electronic Equipment
Battery-Powered Instrumentation
Digital Scales
Strain Gauges
Sensor Amplifiers
Low-Power/Low-Voltage Equipment
Portable Medical Instruments
Cellular Phones

Selector Guide

PART	No. AMPLIFIERS	SHUT-DOWN	PIN-PACKAGE
MAX4240	1	—	5 SOT23
MAX4241	1	Yes	8 µMAX/8 SO
MAX4242	2	—	8 µMAX/8 SO
MAX4243	2	Yes	10 µMAX/14 SO
MAX4244	4	—	14 SO

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

Features

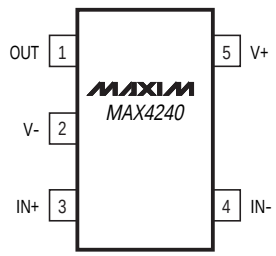
- ♦ **Down to 1.8V Guaranteed Operation**
- ♦ **10µA (typ) Supply Current per Amplifier**
- ♦ **100kHz Gain-Bandwidth Product**
- ♦ **Output Swings Rail-to-Rail**
- ♦ **Input Common-Mode Range Extends 200mV Beyond the Rails**
- ♦ **1µA Shutdown Mode (MAX4241/MAX4243)**
- ♦ **Unity-Gain Stable For Capacitive Loads up to 100pF**
- ♦ **250µV Input Offset Voltage**
- ♦ **No Output Phase Reversal for Overdriven Inputs**
- ♦ **Available in Space-Saving 5-pin SOT23 and 8-pin µMAX Packages**

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX4240EUK-T	-40°C to +85°C	5 SOT23-5
MAX4241ESA	-40°C to +85°C	8 SO
MAX4241EUA	-40°C to +85°C	8 µMAX
MAX4242ESA	-40°C to +85°C	8 SO
MAX4242EUA	-40°C to +85°C	8 µMAX
MAX4243ESD	-40°C to +85°C	14 SO
MAX4243EUB	-40°C to +85°C	10 µMAX
MAX4244ESD	-40°C to +85°C	14 SO

Pin Configurations

TOP VIEW



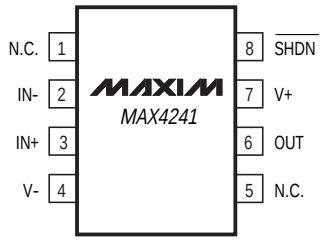
SOT23-5

Pin Configurations continued on next page.

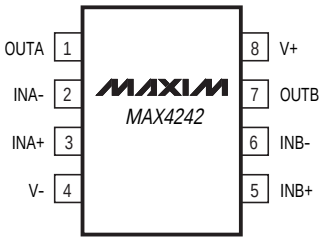
Single/Dual/Quad, 1.8V Micropower, SOT23, Rail-to-Rail I/O Op Amps

Pin Configurations (continued)

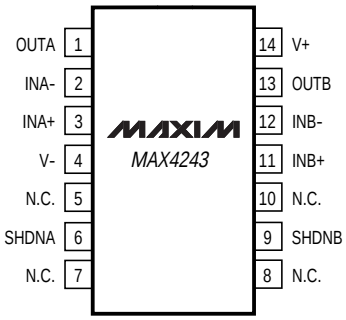
TOP VIEW



SO/μMAX



SO/μMAX



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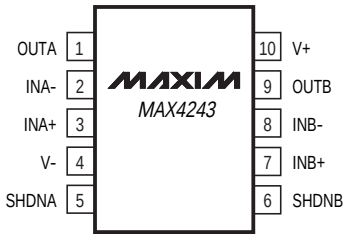
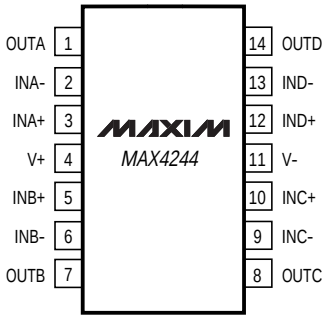


μMAX



SO

N.C. = NOT INTERNALLY CONNECTED