# Low Noise, Precision 16 V CMOS, Rail-to-Rail Operational Amplifiers

# AD8661/AD8662/AD8664

## FEATURES

- **Low offset voltage: 100 µV maximum @ $V_S$ = 5 V**
- **Low input bias current: 1 pA maximum**
- **Single-supply operation: 5 V to 16 V**
- **Low noise: 10 nV/√Hz**
- **Wide bandwidth: 4 MHz**
- **Unity-gain stable**
- **Small package options**
  - **3 mm × 3 mm 8-lead LFCSP**
  - **8-lead MSOP and narrow SOIC**
  - **14-lead TSSOP and narrow SOIC**

## APPLICATIONS

- **Sensors**
- **Medical equipment**
- **Consumer audio**
- **Photodiode amplification**
- **ADC drivers**

## PIN CONFIGURATIONS

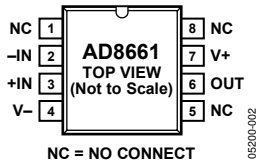


*Figure 1. AD8661, 8-Lead SOIC_N (R-8)*

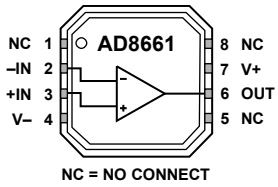


*Figure 2. AD8661, 8-Lead LFCSP_VD (CP-8-2)*

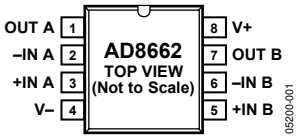


*Figure 3. AD8662, 8-Lead SOIC_N (R-8)*

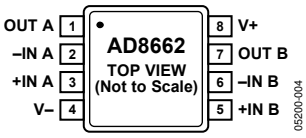


*Figure 4. AD8662, 8-Lead MSOP (RM-8)*

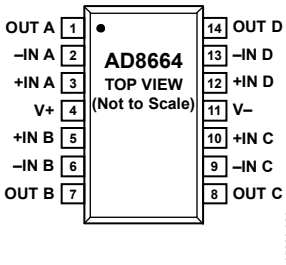


*Figure 5. AD8664, 14-Lead SOIC_N (R-14)*

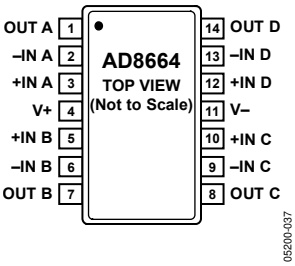


*Figure 6. AD8664, 14-Lead TSSOP (RU-14)*

## GENERAL DESCRIPTION

The AD8661/AD8662/AD8664 are rail-to-rail output, single-supply amplifiers that use the Analog Devices, Inc., patented DigiTrim® trimming technique to achieve low offset voltage. The AD866x series features extended operating ranges, with supply voltages up to 16 V. It also features low input bias current, wide signal bandwidth, and low input voltage and current noise.

The combination of low offset, very low input bias current, and a wide supply range makes these amplifiers useful in a wide variety of applications usually associated with higher priced JFET amplifiers. Systems using high impedance sensors, such as photodiodes, benefit from the combination of low input bias current, low noise, low offset, and wide bandwidth. The wide operating voltage range meets the demands of high performance ADCs and DACs. Audio applications and medical monitoring equipment can take advantage of the high input impedance, low voltage and current noise, and wide bandwidth.

The single AD8661 is available in a narrow 8-lead SOIC package and a very thin, dual lead, 8-lead LFCSP. The AD8661 SOIC_N package is specified over the extended industrial temperature range of −40°C to +125°C. The AD8661 LFCSP_VD is specified over the industrial temperature range of −40°C to +85°C. The AD8662 is available in a narrow 8-lead SOIC package and an 8-lead MSOP, both specified over the extended industrial temperature range of −40°C to +125°C. The AD8664 is available in a narrow 14-lead SOIC package and a 14-lead TSSOP, both with an extended industrial temperature range of −40°C to +125°C.

**Rev. D**



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# SPECIFICATIONS

## AD8661/AD8662/AD8664 ELECTRICAL CHARACTERISTICS—SOIC_N, MSOP, AND TSSOP

$V_S$ = 5.0 V, $V_{CM}$ = $V_S$/2, $T_A$ = 25°C, unless otherwise noted.

**Table 1.**

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| INPUT CHARACTERISTICS | | | | | | |
| Offset Voltage | $V_{OS}$ | $V_{CM} = V_S/2$ | | 30 | 100 | µV |
| AD8661 | | −40°C < $T_A$ < +85°C | | | 1000 | µV |
| AD8661 | | −40°C < $T_A$ < +125°C | | | 1400 | µV |
| AD8662 | | −40°C < $T_A$ < +125°C | | | 1000 | µV |
| AD8664 | | −40°C < $T_A$ < +125°C | | | 1200 | µV |
| Input Bias Current | $I_B$ | | | 0.3 | 1 | pA |
| | | −40°C < $T_A$ < +85°C | | | 50 | pA |
| | | −40°C < $T_A$ < +125°C | | | 300 | pA |
| Input Offset Current | $I_{OS}$ | | | 0.2 | 0.5 | pA |
| | | −40°C < $T_A$ < +85°C | | | 20 | pA |
| | | −40°C < $T_A$ < +125°C | | | 75 | pA |
| Input Voltage Range | | | −0.1 | | +3.0 | V |
| Common-Mode Rejection Ratio | CMRR | $V_{CM}$ = −0.1 V to +3.0 V | 85 | 100 | | dB |
| | | −40°C < $T_A$ < +125°C | 80 | 100 | | dB |
| Large Signal Voltage Gain | $A_{VO}$ | $R_L$ = 2 kΩ, $V_O$ = 0.5 V to 4.5 V | 100 | 220 | | V/mV |
| Offset Voltage Drift | $TCV_{OS}$ | | | | | |
| AD8661 | | −40°C < $T_A$ < +125°C | | 3 | 10 | µV/°C |
| AD8662, AD8664 | | −40°C < $T_A$ < +125°C | | 2 | 9 | µV/°C |
| OUTPUT CHARACTERISTICS | | | | | | |
| Output Voltage High | $V_{OH}$ | $I_L$ = 1 mA | 4.85 | 4.93 | | V |
| | | −40°C < $T_A$ < +125°C | 4.80 | | | V |
| Output Voltage Low | $V_{OL}$ | $I_L$ = 1 mA | | 50 | 100 | mV |
| | | −40°C < $T_A$ < +125°C | | | 110 | mV |
| Short-Circuit Current | $I_{SC}$ | | | ±19 | | mA |
| Closed-Loop Output Impedance | $Z_{OUT}$ | f = 1 MHz, $A_V$ = 1 | | 50 | | Ω |
| POWER SUPPLY | | | | | | |
| Supply Current per Amplifier | $I_{SY}$ | $V_O = V_S/2$ | | 1.15 | 1.40 | mA |
| | | −40°C < $T_A$ < +125°C | | | 2.0 | mA |
| DYNAMIC PERFORMANCE | | | | | | |
| Slew Rate | SR | $R_L$ = 2 kΩ | | 3.5 | | V/µs |
| Gain Bandwidth Product | GBP | | | 4 | | MHz |
| Phase Margin | $\Phi_O$ | | | 65 | | Degrees |
| NOISE PERFORMANCE | | | | | | |
| Peak-to-Peak Noise | $e_n$ p-p | f = 0.1 Hz to 10 Hz | | 2.5 | | µV p-p |
| Voltage Noise Density | $e_n$ | f = 1 kHz | | 12 | | nV/√Hz |
| | | f = 10 kHz | | 10 | | nV/√Hz |
| Current Noise Density | $i_n$ | f = 1 kHz | | 0.1 | | pA/√Hz |

## AD8661/AD8662/AD8664 ELECTRICAL CHARACTERISTICS—SOIC_N, MSOP, AND TSSOP

$V_S$ = 16.0 V, $V_{CM}$ = $V_S$/2, $T_A$ = 25°C, unless otherwise noted.

**Table 2.**

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| INPUT CHARACTERISTICS | | | | | | |
| Offset Voltage | $V_{OS}$ | $V_{CM} = V_S/2$ | | 50 | 160 | µV |
| AD8661 | | −40°C < $T_A$ < +85°C | | | 1000 | µV |
| AD8661 | | −40°C < $T_A$ < +125°C | | | 1400 | µV |
| AD8662 | | −40°C < $T_A$ < +125°C | | | 1000 | µV |
| AD8664 | | −40°C < $T_A$ < +125°C | | | 1200 | µV |
| Input Bias Current | $I_B$ | | | 0.3 | 1 | pA |
| | | −40°C < $T_A$ < +85°C | | | 50 | pA |
| | | −40°C < $T_A$ < +125°C | | | 300 | pA |
| Input Offset Current | $I_{OS}$ | | | 0.2 | 0.5 | pA |
| | | −40°C < $T_A$ < +85°C | | | 20 | pA |
| | | −40°C < $T_A$ < +125°C | | | 75 | pA |
| Input Voltage Range | | | −0.1 | | +14.0 | V |
| Common-Mode Rejection Ratio | CMRR | $V_{CM}$ = −0.1 V to +14.0 V | 90 | 110 | | dB |
| | | −40°C < $T_A$ < +125°C | 90 | 110 | | dB |
| Large Signal Voltage Gain | $A_{VO}$ | $R_L$ = 2 kΩ, $V_O$ = 0.5 V to 15.5 V | 200 | 360 | | V/mV |
| Offset Voltage Drift | $TCV_{OS}$ | | | | | |
| AD8661 | | −40°C < $T_A$ < +125°C | | 3 | 10 | µV/°C |
| AD8662, AD8664 | | −40°C < $T_A$ < +125°C | | 2 | 9 | µV/°C |
| OUTPUT CHARACTERISTICS | | | | | | |
| Output Voltage High | $V_{OH}$ | $I_L$ = 1 mA | 15.93 | 15.97 | | V |
| | | $I_L$ = 10 mA | 15.60 | 15.70 | | V |
| | | −40°C < $T_A$ < +125°C | 15.50 | | | V |
| Output Voltage Low | $V_{OL}$ | $I_L$ = 1 mA | | 24 | 50 | mV |
| | | $I_L$ = 10 mA | | 190 | 300 | mV |
| | | −40°C < $T_A$ < +125°C | | | 350 | mV |
| Short-Circuit Current | $I_{SC}$ | | | ±140 | | mA |
| Closed-Loop Output Impedance | $Z_{OUT}$ | f = 1 MHz, $A_V$ = 1 | | 45 | | Ω |
| POWER SUPPLY | | | | | | |
| Power Supply Rejection Ratio | PSRR | $V_S$ = 5 V to 16 V | 95 | 110 | | dB |
| | | −40°C < $T_A$ < +125°C | 95 | 115 | | dB |
| Supply Current per Amplifier | $I_{SY}$ | $V_O = V_S/2$ | | 1.25 | 1.55 | mA |
| | | −40°C < $T_A$ < +125°C | | | 2.1 | mA |
| DYNAMIC PERFORMANCE | | | | | | |
| Slew Rate | SR | $R_L$ = 2 kΩ | | 3.5 | | V/µs |
| Gain Bandwidth Product | GBP | | | 4 | | MHz |
| Phase Margin | $\Phi_O$ | | | 65 | | Degrees |
| NOISE PERFORMANCE | | | | | | |
| Peak-to-Peak Noise | $e_n$ p-p | f = 0.1 Hz to 10 Hz | | 2.5 | | µV p-p |
| Voltage Noise Density | $e_n$ | f = 1 kHz | | 12 | | nV/√Hz |
| | | f = 10 kHz | | 10 | | nV/√Hz |
| Current Noise Density | $i_n$ | f = 1 kHz | | 0.1 | | pA/√Hz |

## AD8661 ELECTRICAL CHARACTERISTICS—LFCSP_VD ONLY

$V_S$ = 5.0 V, $V_{CM}$ = $V_S$/2, $T_A$ = 25°C, unless otherwise noted.

**Table 3.**

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| INPUT CHARACTERISTICS | | | | | | |
| Offset Voltage | $V_{OS}$ | $V_{CM} = V_S/2$ | | 50 | 300 | µV |
| | | −40°C < $T_A$ < +85°C | | | 2000 | µV |
| Input Bias Current | $I_B$ | | | 0.3 | 1 | pA |
| | | −40°C < $T_A$ < +85°C | | | 50 | pA |
| Input Offset Current | $I_{OS}$ | | | 0.2 | 0.5 | pA |
| | | −40°C < $T_A$ < +85°C | | | 20 | pA |
| Input Voltage Range | | | −0.1 | | +3.0 | V |
| Common-Mode Rejection Ratio | CMRR | $V_{CM}$ = −0.1 V to +3.0 V | 85 | 100 | | dB |
| | | −40°C < $T_A$ < +85°C | 80 | 100 | | dB |
| Large Signal Voltage Gain | $A_{VO}$ | $R_L$ = 2 kΩ, $V_O$ = 0.5 V to 4.5 V | 100 | 240 | | V/mV |
| Offset Voltage Drift | $TCV_{OS}$ | −40°C < $T_A$ < +85°C | | 4 | 17 | µV/°C |
| OUTPUT CHARACTERISTICS | | | | | | |
| Output Voltage High | $V_{OH}$ | $I_L$ = 1 mA | 4.85 | 4.93 | | V |
| | | −40°C < $T_A$ < +85°C | 4.80 | | | V |
| Output Voltage Low | $V_{OL}$ | $I_L$ = 1 mA | | 50 | 100 | mV |
| | | −40°C < $T_A$ < +85°C | | | 120 | mV |
| Short-Circuit Current | $I_{SC}$ | | | ±19 | | mA |
| Closed-Loop Output Impedance | $Z_{OUT}$ | f = 1 MHz, $A_V$ = 1 | | 65 | | Ω |
| POWER SUPPLY | | | | | | |
| Supply Current per Amplifier | $I_{SY}$ | $V_O = V_S/2$ | | 1.15 | 1.40 | mA |
| | | −40°C < $T_A$ < +85°C | | | 1.8 | mA |
| DYNAMIC PERFORMANCE | | | | | | |
| Slew Rate | SR | $R_L$ = 2 kΩ | | 3.5 | | V/µs |
| Gain Bandwidth Product | GBP | | | 4 | | MHz |
| Phase Margin | $\Phi_O$ | | | 65 | | Degrees |
| NOISE PERFORMANCE | | | | | | |
| Peak-to-Peak Noise | $e_n$ p-p | f = 0.1 Hz to 10 Hz | | 2.5 | | µV p-p |
| Voltage Noise Density | $e_n$ | f = 1 kHz | | 12 | | nV/√Hz |
| | | f = 10 kHz | | 10 | | nV/√Hz |
| Current Noise Density | $i_n$ | f = 1 kHz | | 0.1 | | pA/√Hz |

## AD8661 ELECTRICAL CHARACTERISTICS—LFCSP_VD ONLY

$V_S$ = 16.0 V, $V_{CM}$ = $V_S$/2, $T_A$ = 25°C, unless otherwise noted.

**Table 4.**

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| INPUT CHARACTERISTICS | | | | | | |
| Offset Voltage | $V_{OS}$ | $V_{CM} = V_S/2$ | | 50 | 300 | µV |
| | | −40°C < $T_A$ < +85°C | | | 2000 | µV |
| Input Bias Current | $I_B$ | | | 0.3 | 1 | pA |
| | | −40°C < $T_A$ < +85°C | | | 50 | pA |
| Input Offset Current | $I_{OS}$ | | | 0.2 | 0.5 | pA |
| | | −40°C < $T_A$ < +85°C | | | 20 | pA |
| Input Voltage Range | | | −0.1 | | +14.0 | V |
| Common-Mode Rejection Ratio | CMRR | $V_{CM}$ = −0.1 V to +14.0 V | 90 | 110 | | dB |
| | | −40°C < $T_A$ < +85°C | 90 | 110 | | dB |
| Large Signal Voltage Gain | $A_{VO}$ | $R_L$ = 2 kΩ, $V_O$ = 0.5 V to 15.5 V | 200 | 420 | | V/mV |
| Offset Voltage Drift | $TCV_{OS}$ | −40°C < $T_A$ < +85°C | | 4 | 17 | µV/°C |
| OUTPUT CHARACTERISTICS | | | | | | |
| Output Voltage High | $V_{OH}$ | $I_L$ = 1 mA | 15.95 | 15.97 | | V |
| | | $I_L$ = 10 mA | 15.60 | 15.70 | | V |
| | | −40°C < $T_A$ < +85°C | 15.50 | | | V |
| Output Voltage Low | $V_{OL}$ | $I_L$ = 1 mA | | 24 | 50 | mV |
| | | $I_L$ = 10 mA | | 210 | 350 | mV |
| | | −40°C < $T_A$ < +85°C | | | 400 | mV |
| Short-Circuit Current | $I_{SC}$ | | | ±140 | | mA |
| Closed-Loop Output Impedance | $Z_{OUT}$ | f = 1 MHz, $A_V$ = 1 | | 45 | | Ω |
| POWER SUPPLY | | | | | | |
| Power Supply Rejection Ratio | PSRR | $V_S$ = 5 V to 16 V | 95 | 110 | | dB |
| | | −40°C < $T_A$ < +85°C | 95 | 115 | | dB |
| Supply Current per Amplifier | $I_{SY}$ | $V_O = V_S/2$ | | 1.25 | 1.55 | mA |
| | | −40°C < $T_A$ < +85°C | | | 1.9 | mA |
| DYNAMIC PERFORMANCE | | | | | | |
| Slew Rate | SR | $R_L$ = 2 kΩ | | 3.5 | | V/µs |
| Gain Bandwidth Product | GBP | | | 4 | | MHz |
| Phase Margin | $\Phi_O$ | | | 65 | | Degrees |
| NOISE PERFORMANCE | | | | | | |
| Peak-to-Peak Noise | $e_n$ p-p | f = 0.1 Hz to 10 Hz | | 2.5 | | µV p-p |
| Voltage Noise Density | $e_n$ | f = 1 kHz | | 12 | | nV/√Hz |
| | | f = 10 kHz | | 10 | | nV/√Hz |
| Current Noise Density | $i_n$ | f = 1 kHz | | 0.1 | | pA/√Hz |

# ABSOLUTE MAXIMUM RATINGS

**Table 5.**

| Parameter | Rating |
|---|---|
| Supply Voltage | 18 V |
| Input Voltage | −0.1 V to $V_S$ |
| Differential Input Voltage | 18 V |
| Output Short-Circuit Duration to GND | Indefinite |
| Storage Temperature Range | −60°C to +150°C |
| Operating Temperature Range | |
| R-8, RM-8, R-14, and RU-14 | −40°C to +125°C |
| CP-8-2 | −40°C to +85°C |
| Junction Temperature Range | −65°C to +150°C |
| Lead Temperature, Soldering (60 sec) | 300°C |

Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only; functional operation of the device at these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## THERMAL RESISTANCE

$\theta_{JA}$ is specified for the worst-case conditions, that is, a device soldered in a circuit board for surface-mount packages.

**Table 6. Thermal Resistance**

| Package Type | $\theta_{JA}$ | $\theta_{JC}$ | Unit |
|---|---|---|---|
| 8-Lead SOIC_N | 121 | 43 | °C/W |
| 8-Lead LFCSP_VD | 75[1] | 18[1] | °C/W |
| 8-Lead MSOP | 142 | 44 | °C/W |
| 14-Lead SOIC_N | 88.2 | 56.3 | °C/W |
| 14-Lead TSSOP | 114 | 23.3 | °C/W |

[1] Exposed pad soldered to application board.

## ESD CAUTION

ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000 V readily accumulate on the human body and test equipment and can discharge without detection. Although this product features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.

# TYPICAL PERFORMANCE CHARACTERISTICS

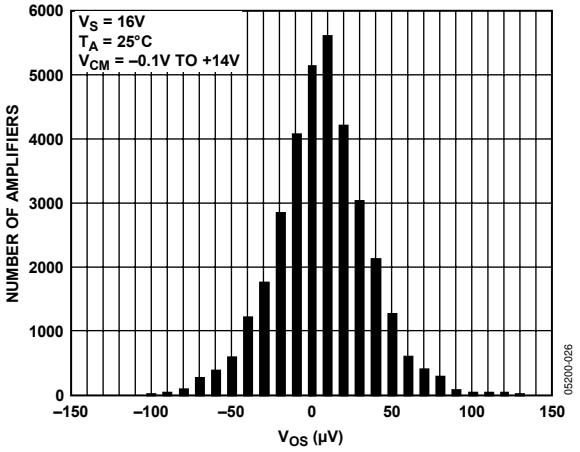



Figure 7. Input Offset Voltage Distribution

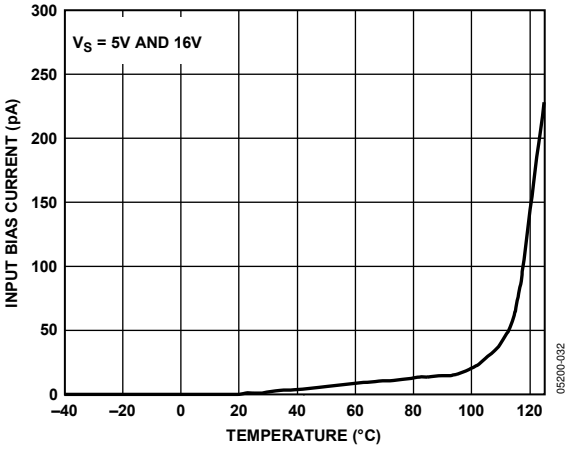



Figure 10. Input Bias Current vs. Temperature

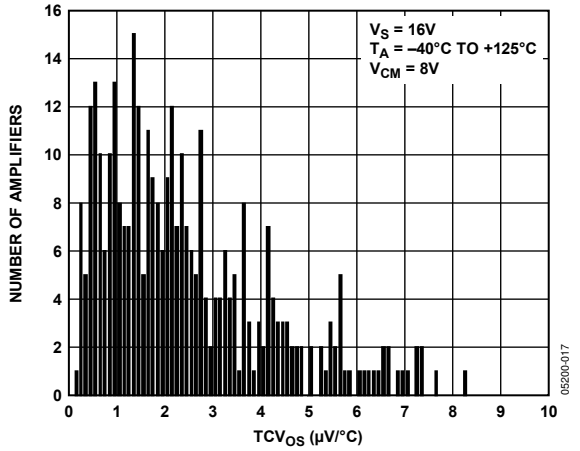



Figure 8. Offset Voltage Drift Distribution

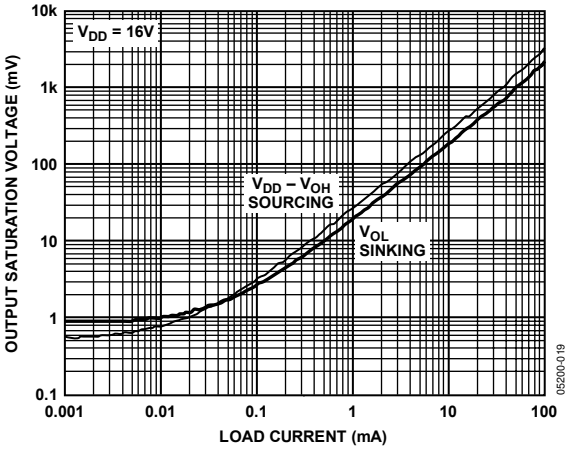



Figure 11. Output Swing Saturation Voltage vs. Load Current

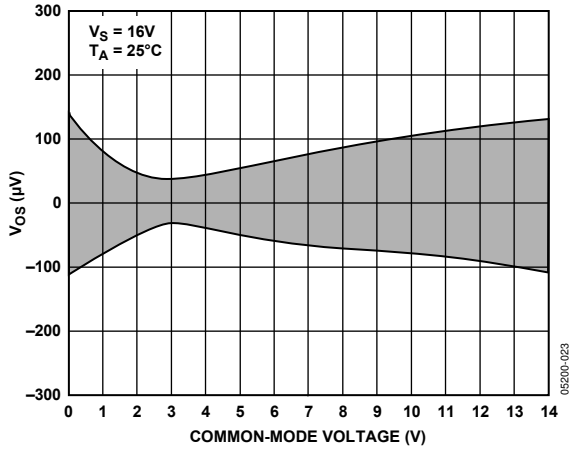



Figure 9. Input Offset Voltage vs. Common-Mode Voltage

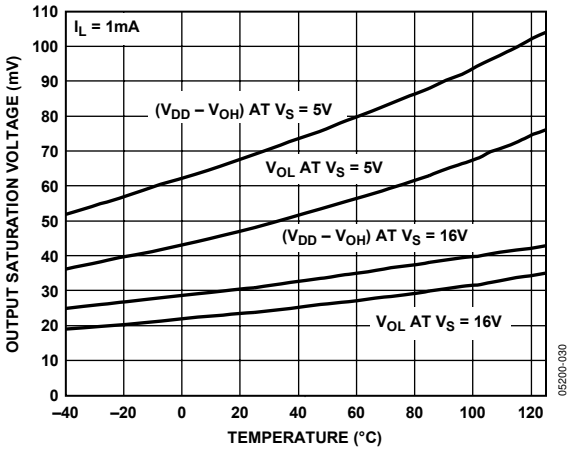



Figure 12. Output Swing Saturation Voltage vs. Temperature, $I_L$ = 1 mA

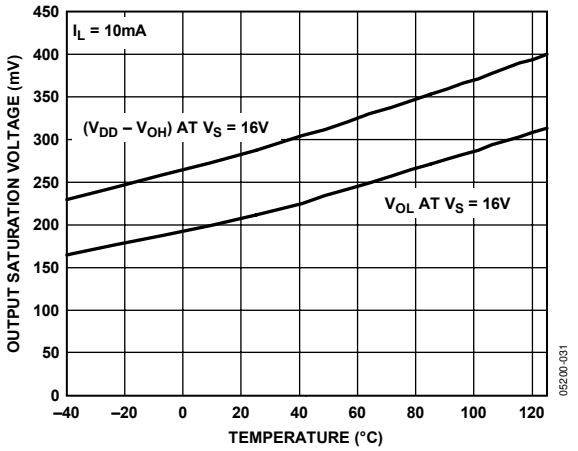



Figure 13. Output Swing Saturation Voltage vs. Temperature, $I_L$ = 10 mA

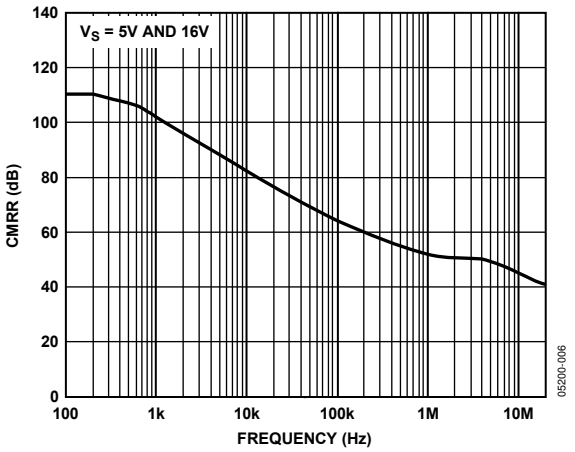



Figure 16. CMRR vs. Frequency

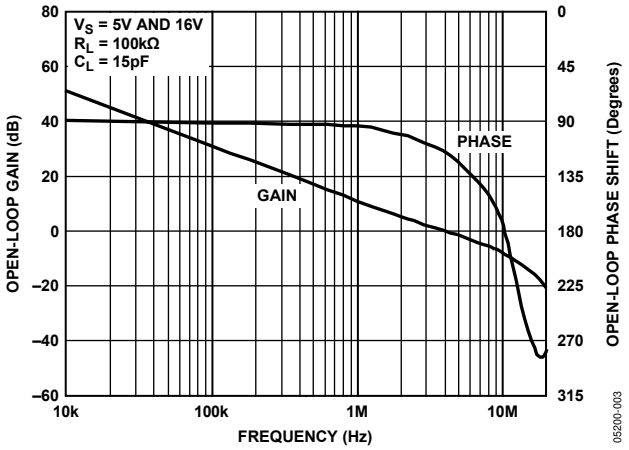



Figure 14. Open-Loop Gain and Phase Shift vs. Frequency

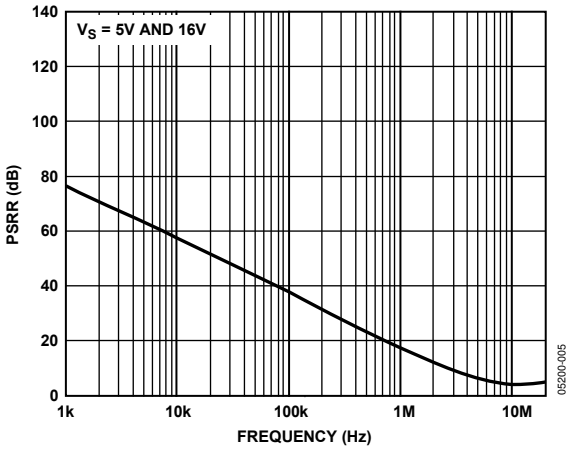



Figure 17. PSRR vs. Frequency

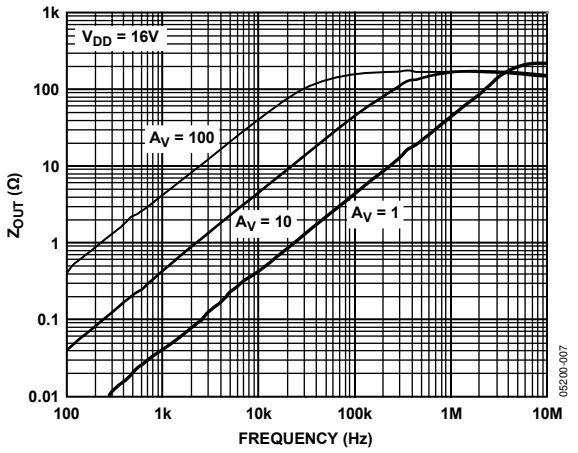



Figure 15. Closed-Loop Output Impedance vs. Frequency

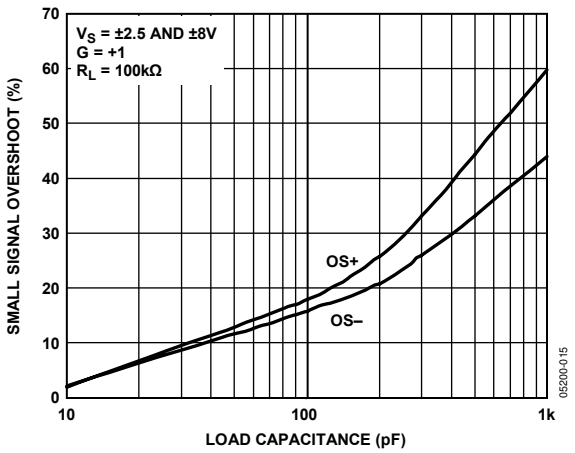



Figure 18. Small Signal Overshoot vs. Load Capacitance

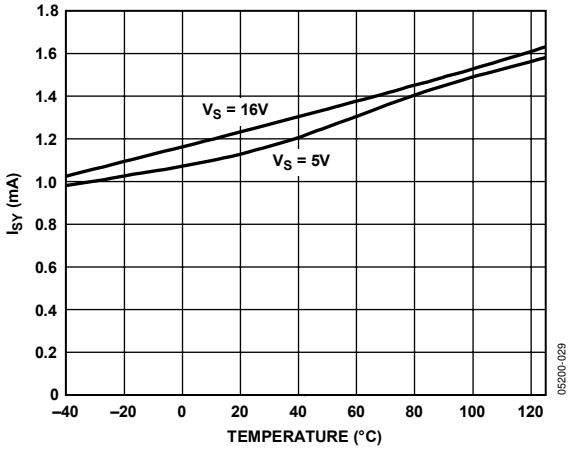



*Figure 19. Supply Current vs. Temperature*

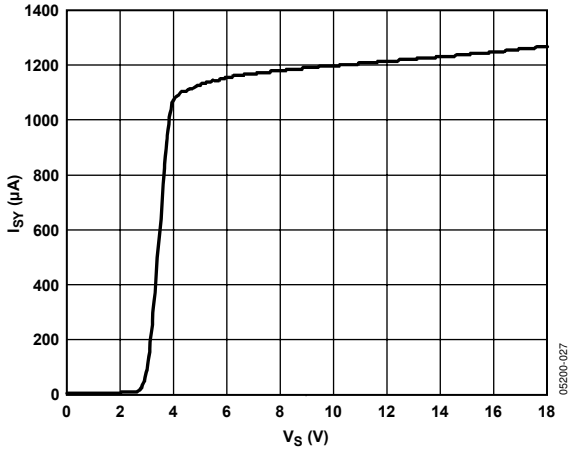



*Figure 20. Supply Current vs. Supply Voltage (Dual-Supply Configuration), $T_A$ = 25°C*

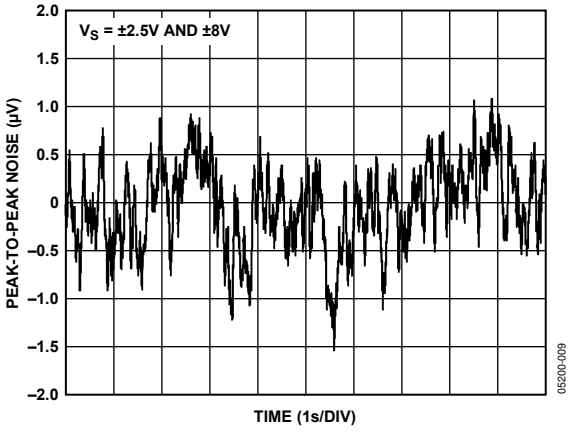



*Figure 21. 0.1 Hz to 10 Hz Input Voltage Noise*

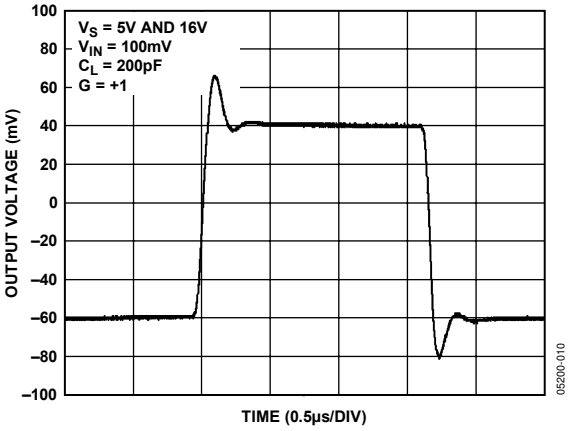



*Figure 22. Small Signal Transient Response*

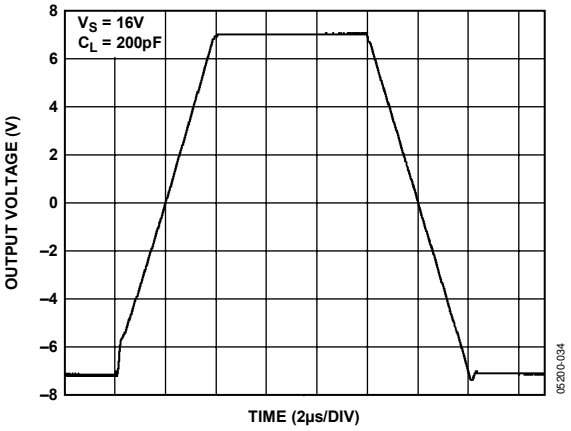



*Figure 23. Large Signal Transient Response*

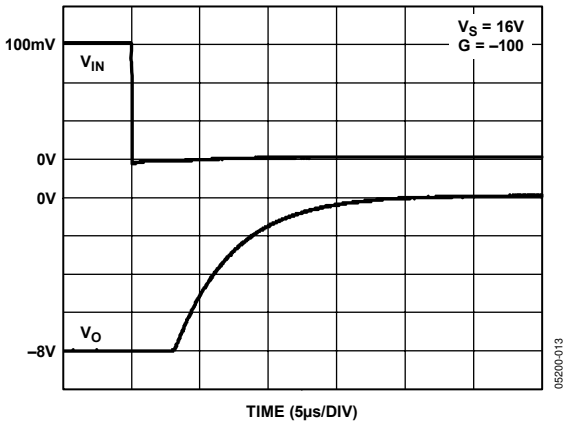



*Figure 24. Positive Overload Recovery*

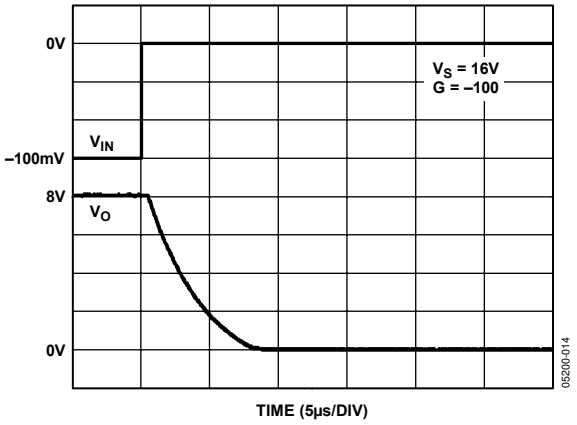



Figure 25. Negative Overload Recovery

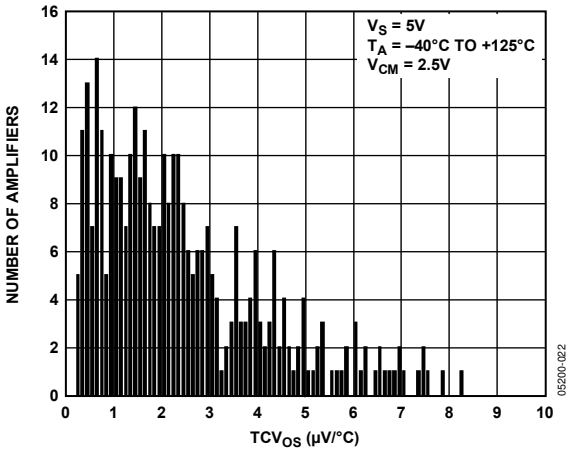



Figure 28. Offset Voltage Drift Distribution

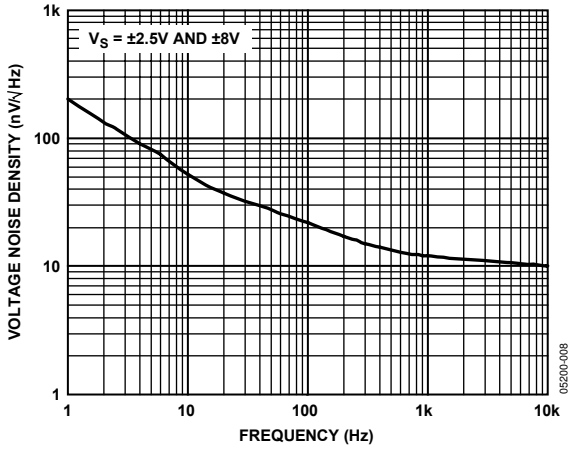



Figure 26. Voltage Noise Density vs. Frequency

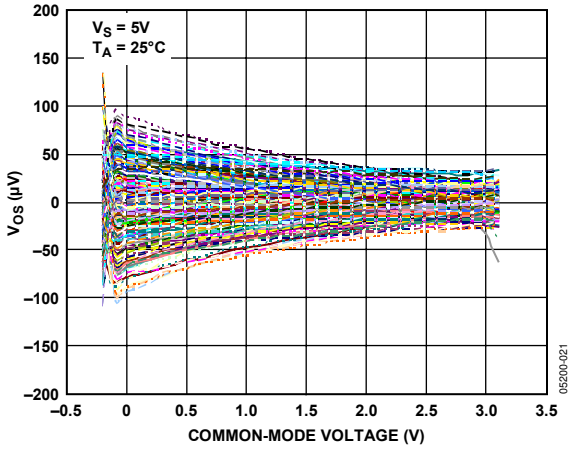



Figure 29. Input Offset Voltage vs. Common-Mode Voltage

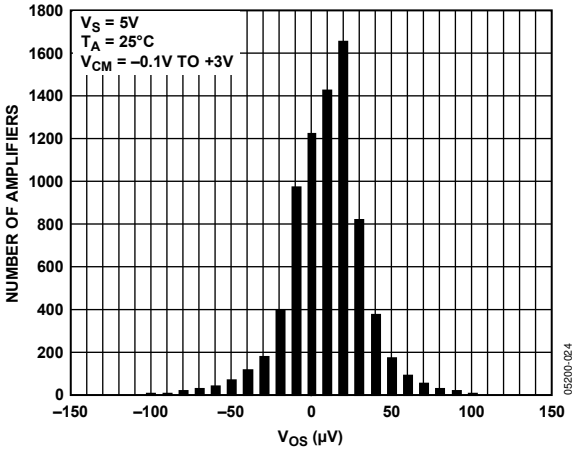



Figure 27. Input Offset Voltage Distribution

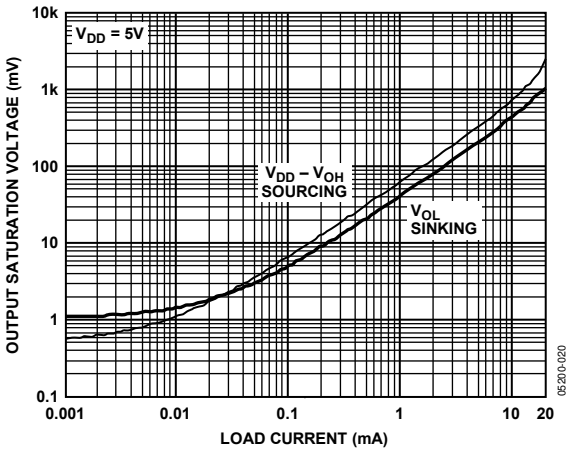



Figure 30. Output Swing Saturation Voltage vs. Load Current

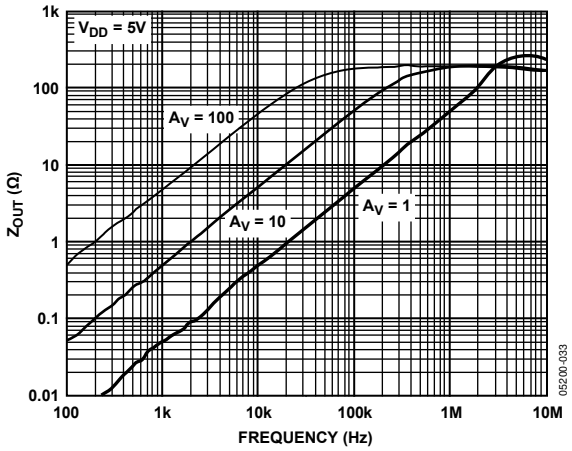



*Figure 31. Closed-Loop Output Impedance vs. Frequency*

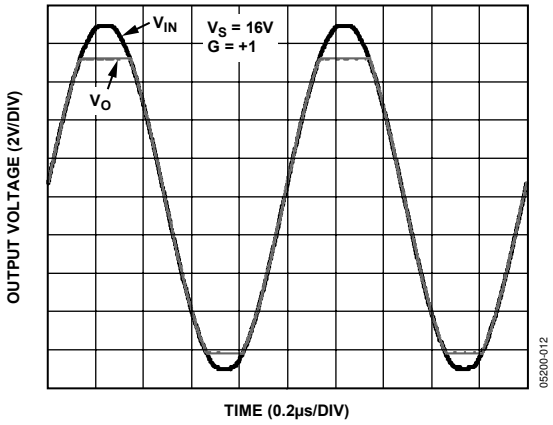



*Figure 33. No Phase Reversal*

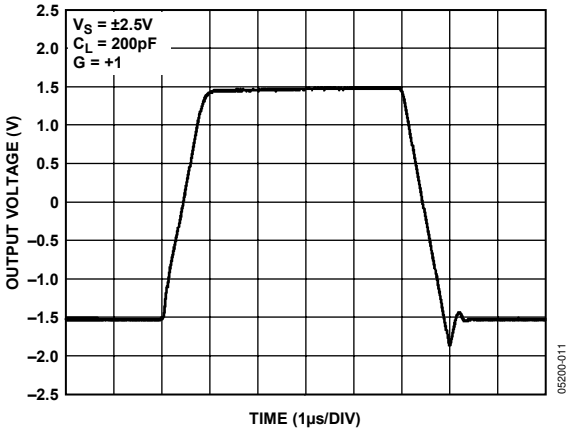



*Figure 32. Large Signal Transient Response*

# OUTLINE DIMENSIONS

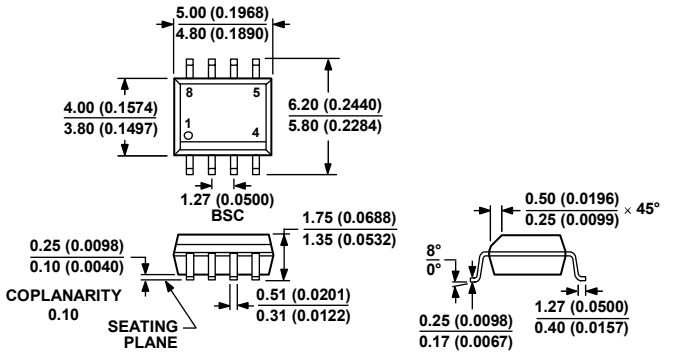



*Figure 34. 8-Lead Small Outline Package [SOIC_N]*
*Narrow Body*
*(R-8)*
*Dimensions shown in millimeters and (inches)*

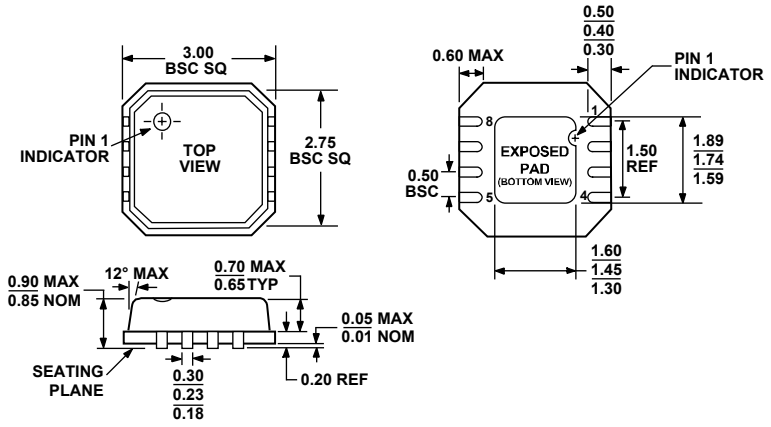
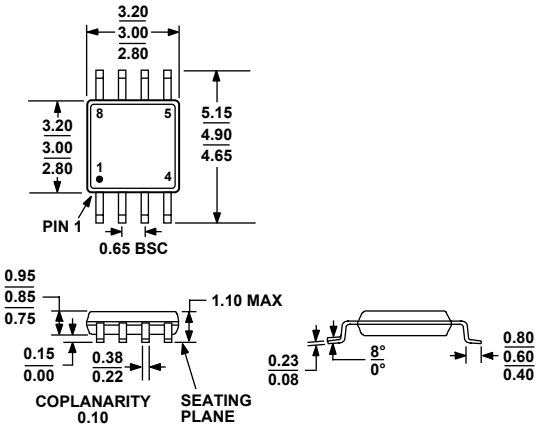
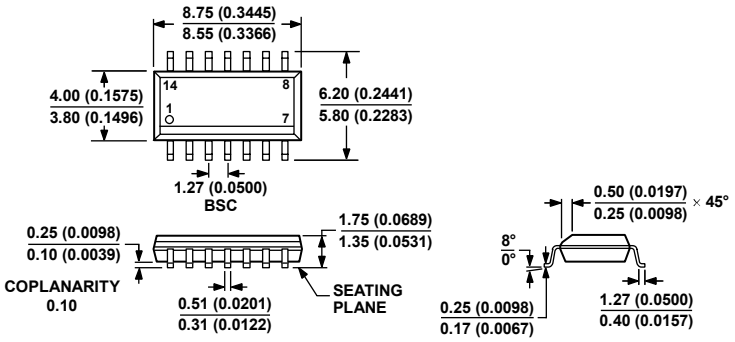



*Figure 35. 8-Lead Lead Frame Chip Scale Package [LFCSP_VD]*
*3 mm x 3 mm Body, Very Thin, Dual Lead*
*(CP-8-2)*
*Dimensions shown in millimeters*




COMPLIANT TO JEDEC STANDARDS MO-187-AA

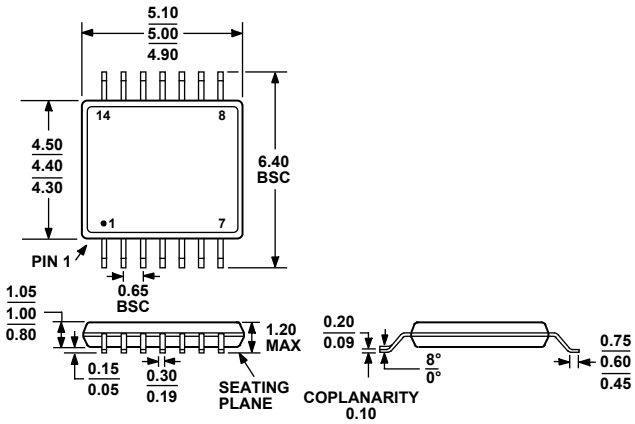
*Figure 36. 8-Lead Mini Small Outline Package [MSOP]*
*(RM-8)*
*Dimensions shown in millimeters*




COMPLIANT TO JEDEC STANDARDS MS-012-AB
CONTROLLING DIMENSIONS ARE IN MILLIMETERS; INCH DIMENSIONS
(IN PARENTHESES) ARE ROUNDED-OFF MILLIMETER EQUIVALENTS FOR
REFERENCE ONLY AND ARE NOT APPROPRIATE FOR USE IN DESIGN.

060606-A

*Figure 37. 14-Lead Standard Small Outline Package [SOIC_N]*
*Narrow Body*
*(R-14)*
*Dimensions shown in millimeters and (inches)*




COMPLIANT TO JEDEC STANDARDS MO-153-AB-1

*Figure 38. 14-Lead Thin Shrink Small Outline Package [TSSOP]*
*(RU-14)*
*Dimensions shown in millimeters*

## ORDERING GUIDE

| Model | Temperature Range | Package Description | Package Option | Branding |
|---|---|---|---|---|
| AD8661ARZ[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8661ARZ-REEL[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8661ARZ-REEL7[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8661ACPZ-R2[1] | −40°C to +85°C | 8-Lead LFCSP_VD | CP-8-2 | A0M |
| AD8661ACPZ-REEL[1] | −40°C to +85°C | 8-Lead LFCSP_VD | CP-8-2 | A0M |
| AD8661ACPZ-REEL7[1] | −40°C to +85°C | 8-Lead LFCSP_VD | CP-8-2 | A0M |
| AD8662ARZ[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8662ARZ-REEL[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8662ARZ-REEL7[1] | −40°C to +125°C | 8-Lead SOIC_N | R-8 | |
| AD8662ARMZ-R2[1] | −40°C to +125°C | 8-Lead MSOP | RM-8 | A10 |
| AD8662ARMZ-REEL[1] | −40°C to +125°C | 8-Lead MSOP | RM-8 | A10 |
| AD8664ARZ[1] | −40°C to +125°C | 14-Lead SOIC_N | R-14 | |
| AD8664ARZ-REEL[1] | −40°C to +125°C | 14-Lead SOIC_N | R-14 | |
| AD8664ARZ-REEL7[1] | −40°C to +125°C | 14-Lead SOIC_N | R-14 | |
| AD8664ARUZ[1] | −40°C to +125°C | 14-Lead TSSOP | RU-14 | |
| AD8664ARUZ-REEL[1] | −40°C to +125°C | 14-Lead TSSOP | RU-14 | |

[1] Z = Pb-free part.

## NOTES


D05200-0-7/06(D)