

Comlinear® AD8052LV

Low Cost, +2.7V to 5.5V, 260MHz Rail-to-Rail Amplifier



FEATURES

- 260MHz bandwidth at $G = 1$
- 90MHz bandwidth at $G = 2$
- Output voltage range: 0.036V to 4.953V
- Input voltage range: -0.3V to 3.8V
- 145V/ μ s slew rate
- 55mA output current
- 85mA short circuit output current
- 4.2mA supply current
- Fully specified at 2.7V and 5V supplies
- Pb-free SOIC-8 and MSOP-8 packages

APPLICATIONS

- Twisted pair driver
- High capacitive load driver
- Set-top boxes
- Portable media players
- ADC buffer
- Active filters
- Cable drivers
- Imaging applications

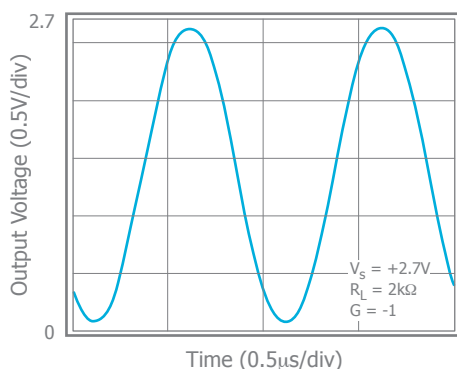
General Description

The COMLINEAR AD8052LV is a low cost dual, voltage feedback amplifier. This amplifier is designed to operate on +2.7V to +5V, or ± 2.5 V supplies. The input voltage range extends 300mV below the negative rail and 1.2V below the positive rail.

The AD8052LV offers superior dynamic performance with a 260MHz small signal bandwidth and 145V/ μ s slew rate. The combination of low power, high output current drive, and rail-to-rail performance make the AD8052LV well suited for battery-powered communication/computing systems.

The combination of low cost and high performance make the AD8052LV suitable for high volume applications in both consumer and industrial applications such as wireless phones, scanners, and color copiers.

Output Swing



Ordering Information

Part Number	Package	Pb-Free	RoHS Compliant	Operating Temperature Range	Packaging Method
AD8052LVISO8	SOIC-8	Yes	Yes	-40°C to +85°C	Rail
AD8052LVISO8X	SOIC-8	Yes	Yes	-40°C to +85°C	Reel
AD8052LVIMP8X*	MSOP-8	Yes	Yes	-40°C to +85°C	Reel

Moisture sensitivity level for all parts is MSL-1. *Advance Information, contact CADEKA for availability.

Electrical Characteristics

$T_A = 25^\circ\text{C}$, $V_S = 5\text{V}$, $R_L = 2\text{k}\Omega$ to $V_S/2$, $G = 2$; unless otherwise noted.

Parameter	Conditions	Min	Typ	Max	Units
Frequency Domain Response					
-3dB Bandwidth	$G = +1$, $V_{OUT} = 0.05V_{pp}$		260		MHz
-3dB Bandwidth	$G = +2$, $V_{OUT} = 0.2V_{pp}$		90		MHz
Large Signal Bandwidth	$G = +2$, $V_{OUT} = 2V_{pp}$		40		MHz
Gain Bandwidth Product			90		MHz
Time Domain Response					
Rise and Fall Time	$V_{OUT} = 0.2\text{V}$ step		3.6		ns
Settling Time to 0.1%	$V_{OUT} = 2\text{V}$ step		40		ns
Overshoot	$V_{OUT} = 0.2\text{V}$ step		7		%
Slew Rate	5V step, $G = -1$		145		V/ μs
Distortion/Noise Response					
2nd Harmonic Distortion	$2V_{pp}$, 5MHz		-71		dBc
3rd Harmonic Distortion	$2V_{pp}$, 5MHz		-78		dBc
THD	$2V_{pp}$, 5MHz		70		dB
Input Voltage Noise	> 1MHz		16		nV/ $\sqrt{\text{Hz}}$
Input Current Noise	> 1MHz		1.3		pA/Hz
Crosstalk	Channel-to-Channel 10MHz		-62		dB
DC Performance					
Input Offset Voltage ⁽¹⁾		-8	1.4	8	mV
Average Drift			10		$\mu\text{V}/^\circ\text{C}$
Input Offset Current ⁽¹⁾		-0.8	0.1	0.8	μA
Input Bias Current ⁽¹⁾		-8	3	8	μA
Average Drift			7		nA/ $^\circ\text{C}$
Power Supply Rejection Ratio ⁽¹⁾	DC	52	57		dB
Open-Loop Gain ⁽¹⁾	$V_{OUT} = V_S/2$	68	78		dB
Supply Current ⁽¹⁾	Per Channel		4.2	5.2	mA
Input Characteristics					
Input Resistance	Non-Inverting		4.3		M Ω
Input Capacitance			1.8		pF
Common Mode Input Range			-0.3 to 3.8		V
Common Mode Rejection Ratio ⁽¹⁾	DC, $V_{CM} = 0\text{V}$ to $V_S - 1.5$	72	87		dB
Output Characteristics					
Output Voltage Swing	$R_L = 150\Omega$	0.3	0.12 to 4.8	4.625	V
	$R_L = 2\text{k}\Omega$		0.036 to 4.953		V
Output Current			± 55		mA
Short-Circuit Output Current	$V_{OUT} = V_S/2$		± 85		mA

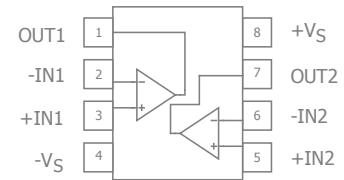
NOTES:

1) 100% tested at 25°C

Refer to the data sheet for complete product specifications

Available Packages

AD8052LV SOIC-8, MSOP-8



Comlinear AD8052LV Low Cost, +2.7V to 5.5V, 260MHz Rail-to-Rail Amp Rev 1A

For additional information regarding our products, please visit CADEKA at: cadeka.com

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