SELECTION GUIDE

Part #	Description	Package	Serial #	Status	Output Voltage vs. Power Supply	Bandwidth	Linearity	Max Common-Mode Voltage	Power Supply Current	Rise Time t_r	Pinout	Mechanical Outline	Datasheet	Buy Now
AD202KNATI → 2000V DIP	Pin out compatible with AD202KN, but output voltage is not isolated with power supply	DIP	≤25156	**Stop production**	Non-Isolated	20kHz	±0.02%	2000V	20mA	18μs	Fig. 1.1	Fig. 10.1		-
	Upgraded replacement for AD202KN	DIP	>25156	**In production**	Isolated	800kHz	±0.02%	2000V	12mA	0.5μs				
AD202JNATI → 1000V DIP	Upgraded replacement for AD202JN	DIP	-	**In production**	Isolated	800kHz	±0.02%	1000V	12mA	0.5μs	Fig. 1.2	Fig. 10.1		
AD202KYATI → 2000V SIP	Pin out compatible with AD202KY, but output voltage is not isolated with power supply	SIP	≤25290	**Stop production**	Non-Isolated	20kHz	±0.02%	2000V	20mA	18μs	Fig. 1.3	Fig. 10.2		-
	Upgraded replacement for AD202KY	SIP	>25290	**In production**	Isolated	800kHz	±0.02%	2000V	12mA	0.5μs				
AD202JYATI → 1000V SIP	Upgraded replacement for AD202JY	SIP	-	**In production**	Isolated	800kHz	±0.02%	1000V	12mA	0.5μs	Fig. 1.4	Fig. 10.2		
AD202KN	Made by Analog Device	DIP	-	**Stop production**	Isolated	2kHz	±0.025%	2000V	5mA	180μs	-	-	-	-
AD202JN	Made by Analog Device	DIP	-	**Stop production**	Isolated	2kHz	±0.05%	1000V	5mA	180μs	-	-	-	-
AD202KY	Made by Analog Device	SIP	-	**Stop production**	Isolated	2kHz	±0.025%	2000V	5mA	180μs	-	-	-	-
AD202JY	Made by Analog Device	SIP	-	**Stop production**	Isolated	2kHz	±0.05%	1000V	5mA	180μs	-	-	-	-
ATIA202KN	Obsolete, identically replaced by AD202KNATI	DIP	-	**Stop production**	Isolated	20kHz	±0.01%	2000V	12mA	18μs	-	-		-
ATIA202KY	Obsolete, identically replaced by AD202KYATI	SIP	-	**Stop production**	Isolated	20kHz	±0.01%	2000V	12mA	18μs	-	-		-

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A. 1



Figure 1.1. Photo of AD202KNATI



Figure 1.3 Photo of AD202KYATI



Figure 1.2. Photo of AD202JNATI



Figure 1.4 Photo of AD202JYATI

FEATURES

- Isolated Power Outputs
- Small Size: 4 Channels/Inch Low
- Uncommitted Input Amplifier
- High CMR: 130dB (Gain = 100V/V)
- High Accuracy: ±0.02% Max Nonlinearity
- High CMV Isolation: ±2000V Continuous

APPLICATIONS

It can be applied for multichannel data acquisition, current shunt measurements motor controls, process signal isolation, high voltage instrumentation amplifier, etc.

DESCRIPTION

Upgraded Drop-in Replacement for AD202KY

We guarantee production for ≥10 years.

The AD202KYATI is a high voltage isolation amplifier designed for multiple applications where input signals are measured, processed, or transmitted without a galvanic connection. These isolation amplifiers in SIP package offer a signal and power isolation function.

With internal transformer-coupling, the AD202KYATI provides total galvanic isolation between the input and output stages of the isolation amplifier. These amplifiers eliminate the need for an external DC-DC converter, which allows the designer to minimize the necessary circuit overhead, thus reducing the overall design and component costs.

The AD202KYATI is powered directly from a 15V DC power supply, featuring small size, high accuracy, low power, wide bandwidth, excellent performance, flexible input, isolated power, etc.

INSIDE THE AD202KYATI

The AD202KYATI uses an amplitude modulation technique to permit transformer coupling of signals down to dc (Figure 2). It also contains an uncommitted input op amp and a power transformer that provides isolated power to the op amp, the modulator, and any external load. The power transformer primary is driven by a 20kHz, $15V_{P-P}$ square wave generated internally.

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026

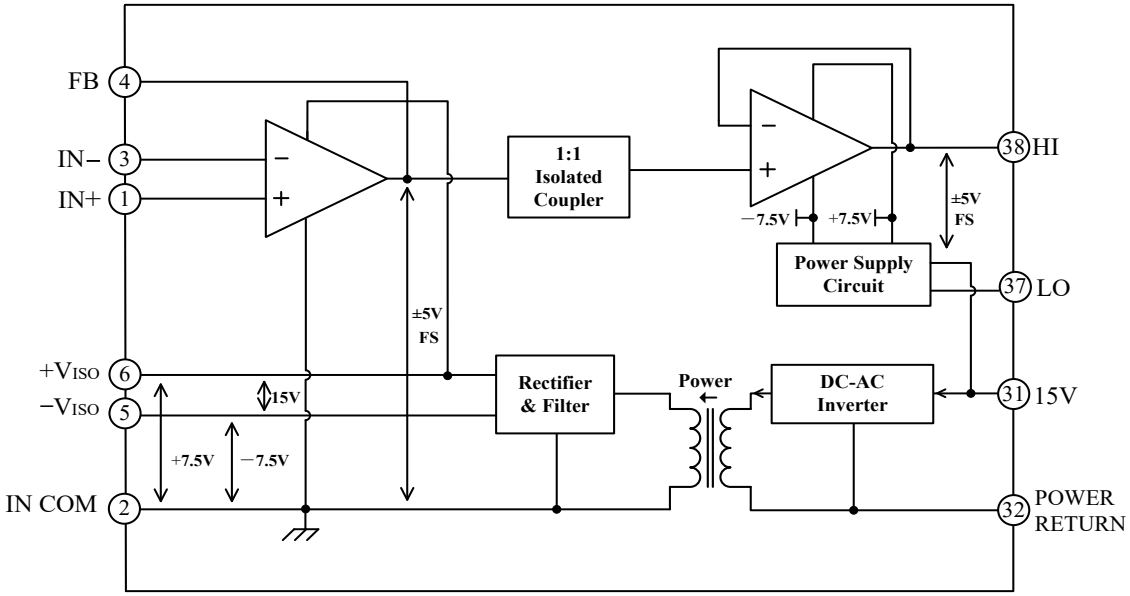


Figure 2. AD202KYATI Functional Block Diagram

SPECIFICATIONS

Table 1. Electrical characteristics. (Typical @ 25°C and V_S = 15V unless otherwise noted.)

Model	AT202KY
GAIN	
Range	1V/V–100 V/V
Error	±0.5% typ (±4% max)
vs. Temperature	±20ppm/°C typ (±45ppm/°C max)
vs. Time	±50 ppm/1000 Hours
vs. Supply Voltage	±0.01%/V
Nonlinearity (G = 1V/V)	±0.02% max
Nonlinearity vs. Isolated Supply Load	±0.0015%/mA
INPUT VOLTAGE RATINGS	
Input Voltage Range	±5V
Max Isolation Voltage (Input to Output)	
AC, 60Hz, Continuous	1500Vms
Continuous (AC and DC)	±2000V Peak
CMRR (Common-Mode Rejection Ratio)*	−74dB
CMTC(Common-Mode Transfer Coefficient)*	-0.2×10^{3}
RS ≤ 100Ω (HI and LO Inputs) G = 1V/V	105dB
G = 100V/V	130dB
RS ≤ l kΩ (Input HI, LO, or Both) G = 1V/V	100dB min
G = 100V/V	110dB min
Leakage Current Input to Output @ 240Vrms, 60 Hz	2µA rms max
INPUT IMPEDANCE	
Differential (G = 1V/V)	10^{12}Ω
Common-Mode	2GΩl4.5pF
INPUT BIAS CURRENT	
Initial, @ 25°C	±30pA
vs. Temperature (0°C to 70°C)	±10nA
INPUT DIFFERENCE CURRENT	
Initial, @ 25°C	±5pA
vs. Temperature (0°C to 70°C)	±2nA
INPUT NOISE	
Voltage, 0.1Hz to 10Hz	$1.8\mu V_{P-P}$
f > 100Hz	$10.8nV/\sqrt{Hz}$
FREQUENCY RESPONSE	
Bandwidth ($V_O \le 10V_{P-P}$, G = 1V–50V/V)	800kHz
Settling Time, to ±10mV (10V Step)	1ms
OFFSET VOLTAGE (RTI)	

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A.

Model	AT202KY
Initial, @ 25°C Adjustable to Zero	(±5 ± 5/G)mV max
vs. Temperature (0°C to 70°C)	$[\pm 10 \pm \frac{10}{G}]$ µV/°C
RATED OUTPUT	
Voltage (Out HI to Out LO)	±5V
Output Resistance	7kΩ
Output Ripple, 100kHz Bandwidth	$10mV_{P-P}$
5kHz Bandwidth	0.5mV rms
ISOLATED POWER OUTPUT	
Voltage, No Load	±7.5V
Accuracy	±10%
Current	400µA Total
Regulation, No Load to Full Load	5%
Ripple	$100mV_{P-P}$
POWER SUPPLY	
Voltage, Rated Performance	15V±5%
Voltage, Operating	15V±10%
Current, No Load (V_S = 15V)	10mA
TEMPERATURE RANGE	
Rated Performance	0°C to 70°C
Operating	−40°C to +85°C
Storage	−40°C to +85°C
PACKAGE DIMENSIONS	
DIP Package (N)	2.10"×0.700"×0.350"

*Test Schematic Figure 3 @ 100Hz Sine Wave @$v_S(t)$ = 1000V.

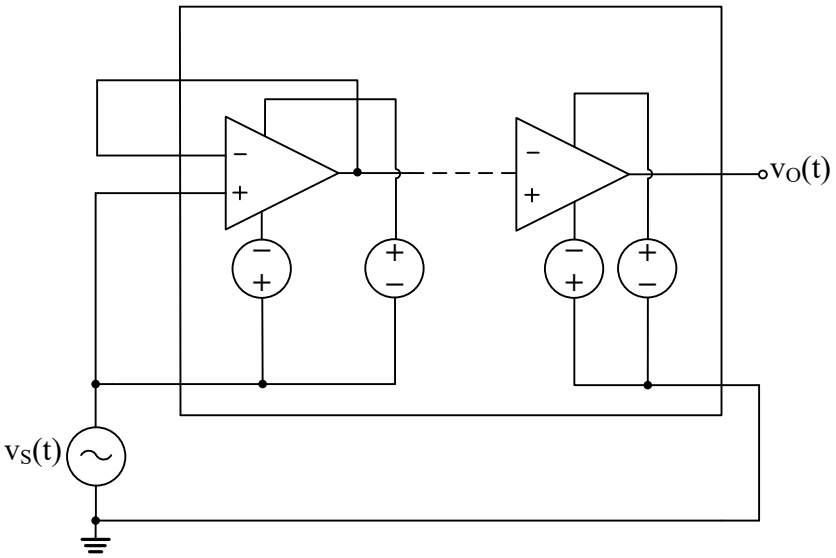


Figure 3. CMRR & CMTC Test Schematic

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A.

PIN DESIGNATIONS

Block	Pin #	Pin Name	Type	Function Description
Isolated Block	1	IN+	Isolated analog input	Isolated positive (Non-inverting) input
	2	IN COM	Isolated analog ground	Isolated ground
	3	IN−	Isolated analog input	Isolated negative (inverting) input
	6	+VISO OUT	Isolated power output	Isolated positive power supply output, +7.5V, referenced to pin 2 IN COM
	5	−VISO OUT	Isolated power output	Isolated negative power supply output, approximately −7.0V, referenced to pin 2 IN COM
	4	FB	Isolated analog output	Isolated op amp output as a feedback signal
Local Block	37	LO	Analog ground	Output voltage ground reference
	38	HI	Analog output	Op amp output, equals to the voltage difference between FB and IN COM
	31	15 V	Analog input	Positive 15V power supply input
	32	POWER RETURN	Analog input	Power supply return

RISE TIME

1. Connect pin FB and pin IN−. Provide a −2V ~ +2V voltage to pin IN+. The rise time = 500ns.

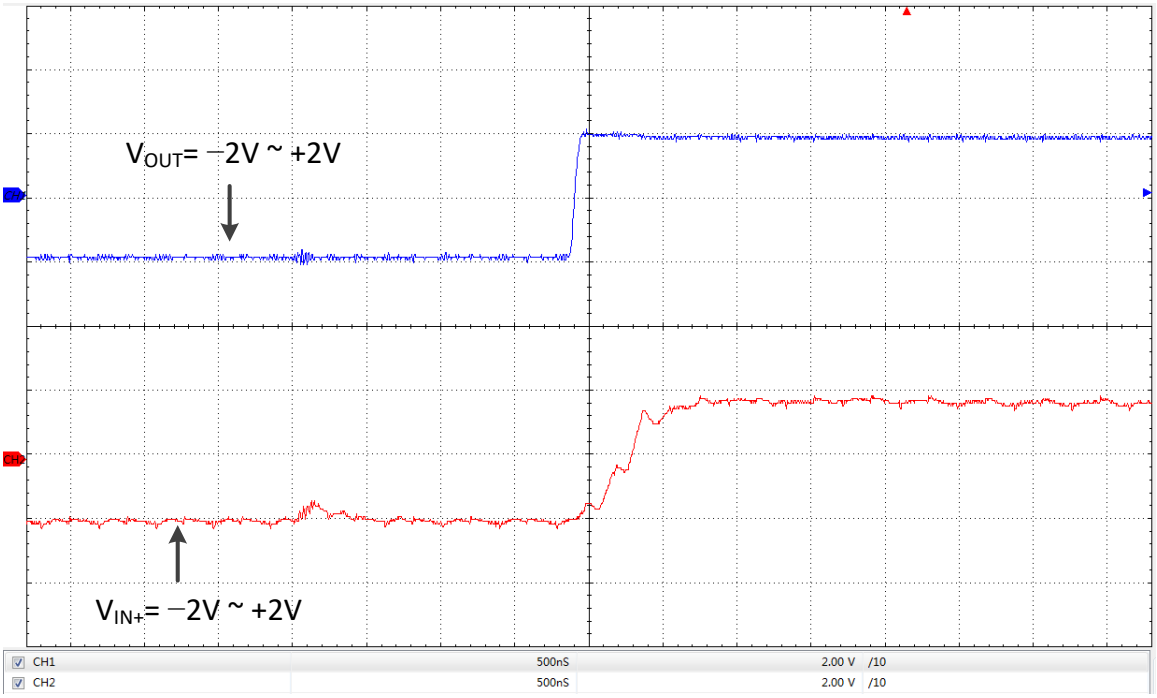


Figure 4. Rise time @ V_{IN+} = −2V ~ +2V

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026

2. Connect pin FB and pin IN−. Provide a −5V ~ +5V voltage to pin IN+. The rise time = 1μs.

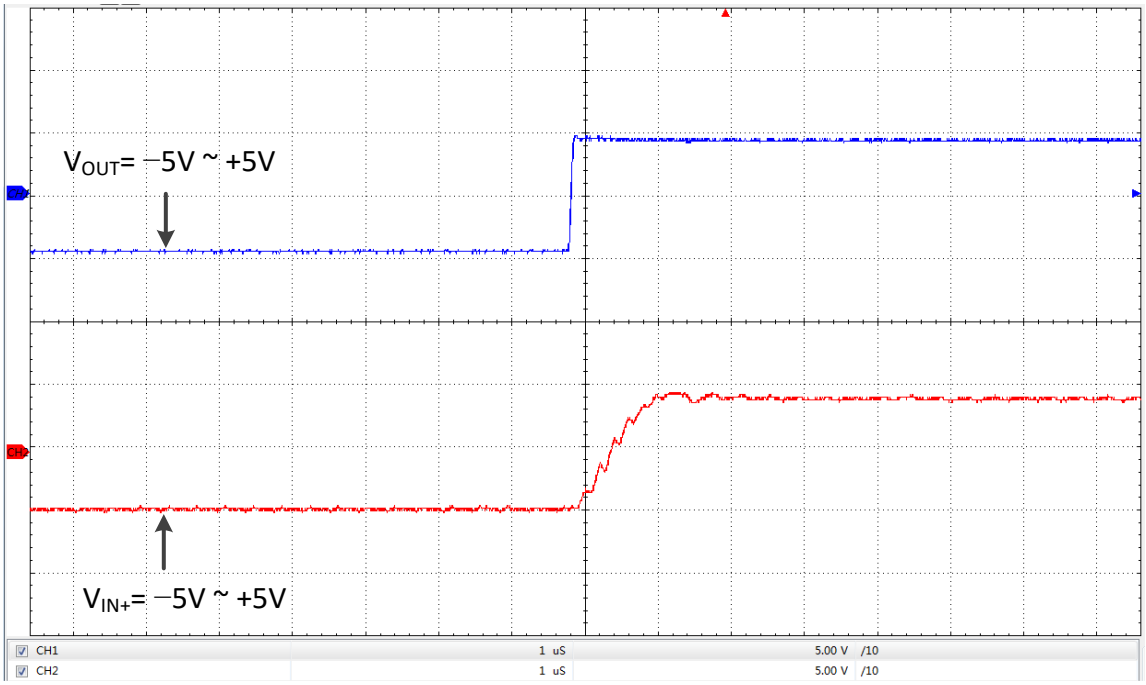


Figure 5. Rise time @ V_{IN+} = −5V ~ +5V

3. Connect pin FB and pin IN−. Provide a −5V ~ +5V voltage to pin IN+. The Frequency f = 500kHz.

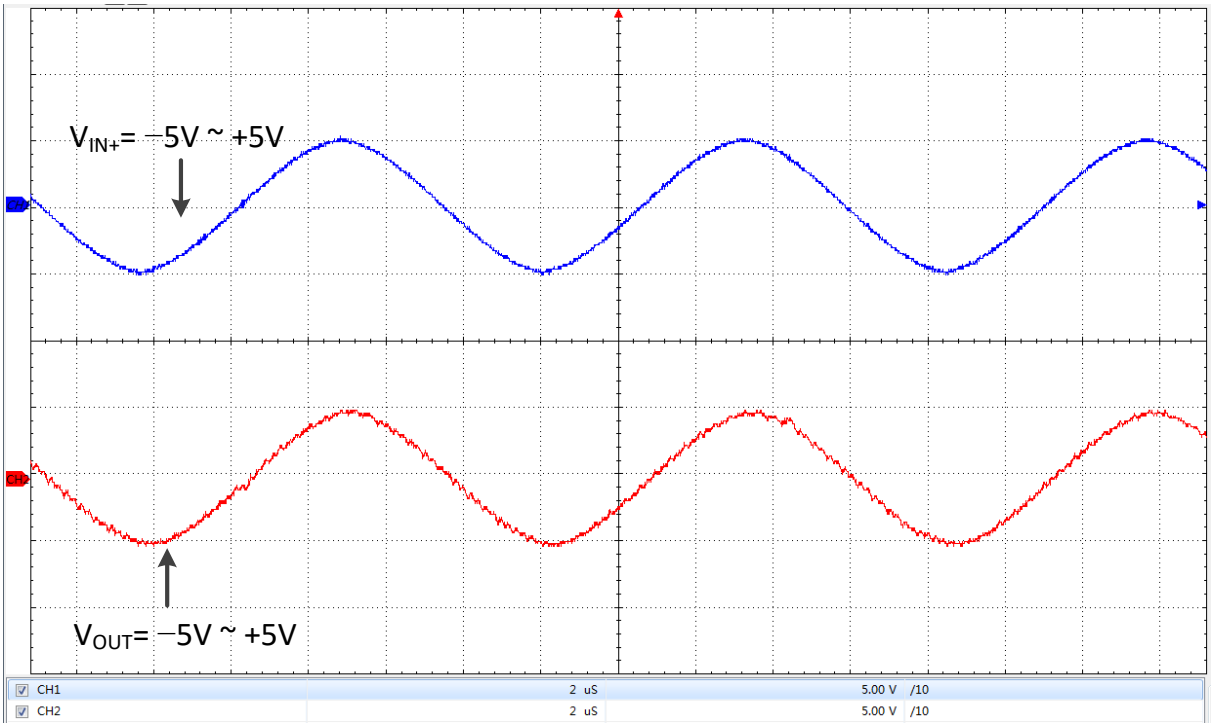


Figure 6. Frequency @ V_{IN+} = −5V ~ +5V

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026

4. Connect pin FB and pin IN−. Provide a −5V ~ +5V voltage to pin IN+. The Frequency f = 50Hz.

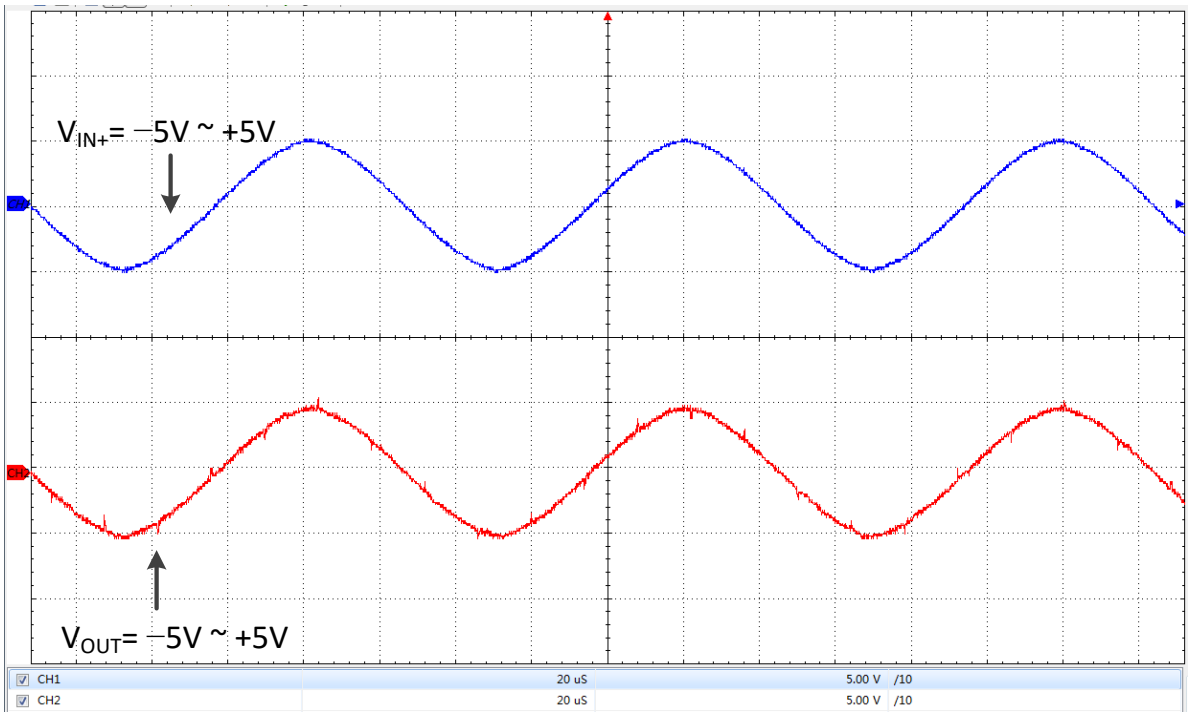


Figure 7. Frequency @ V_{IN+} = −5V ~ +5V

5. Connect pin FB and pin IN−. Provide a −5V ~ +5V voltage to pin IN+. The Frequency f = 100Hz.

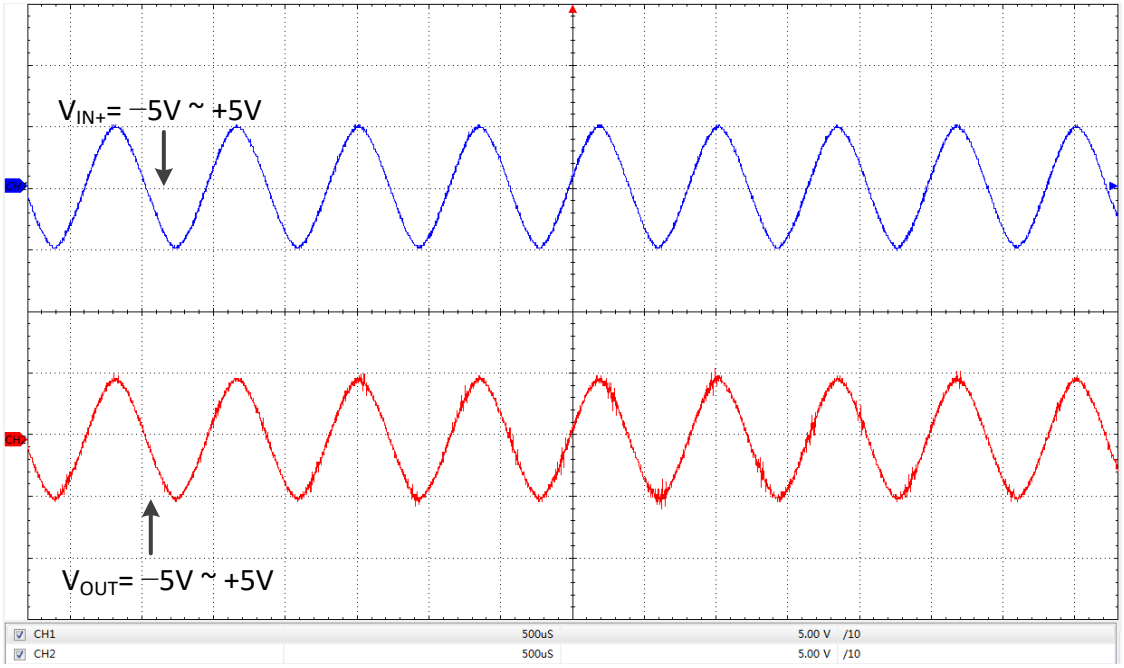


Figure 8. Frequency @ V_{IN+} = −5V ~ +5V

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A.

NONLINEARITY

Connect pin FB and pin IN−. Provide a −5V ~ +5V voltage to pin IN+. The output voltage is as follows.

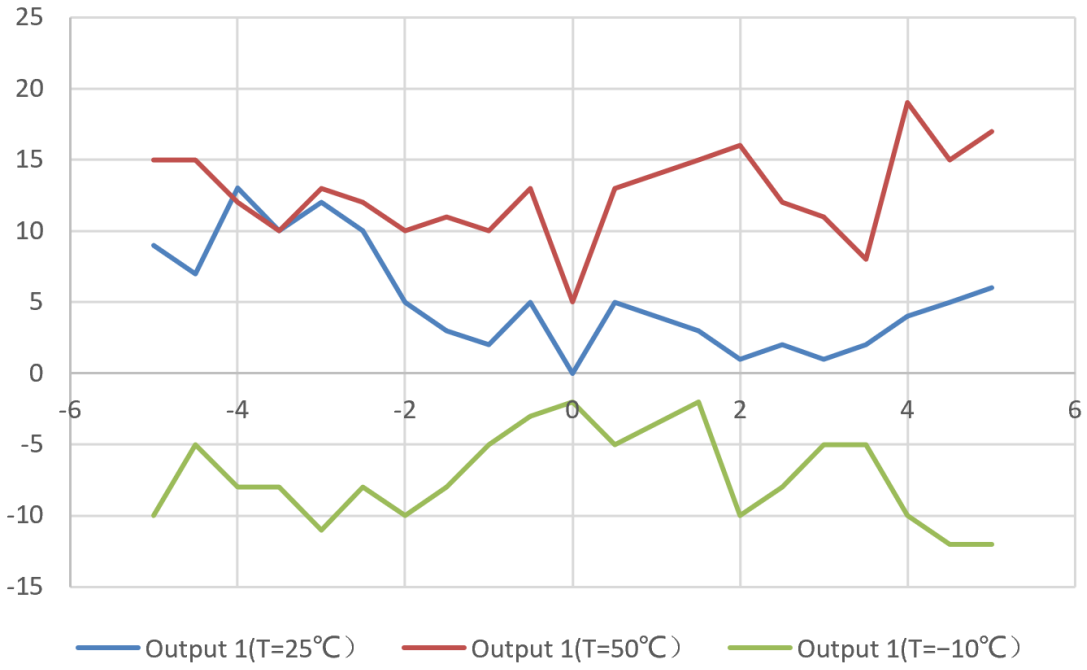


Figure 9. Nonlinearity

MECHANICAL DIMENSIONS

The dimensions of AD202KYATI in SIP package are shown in Figure 10.2.

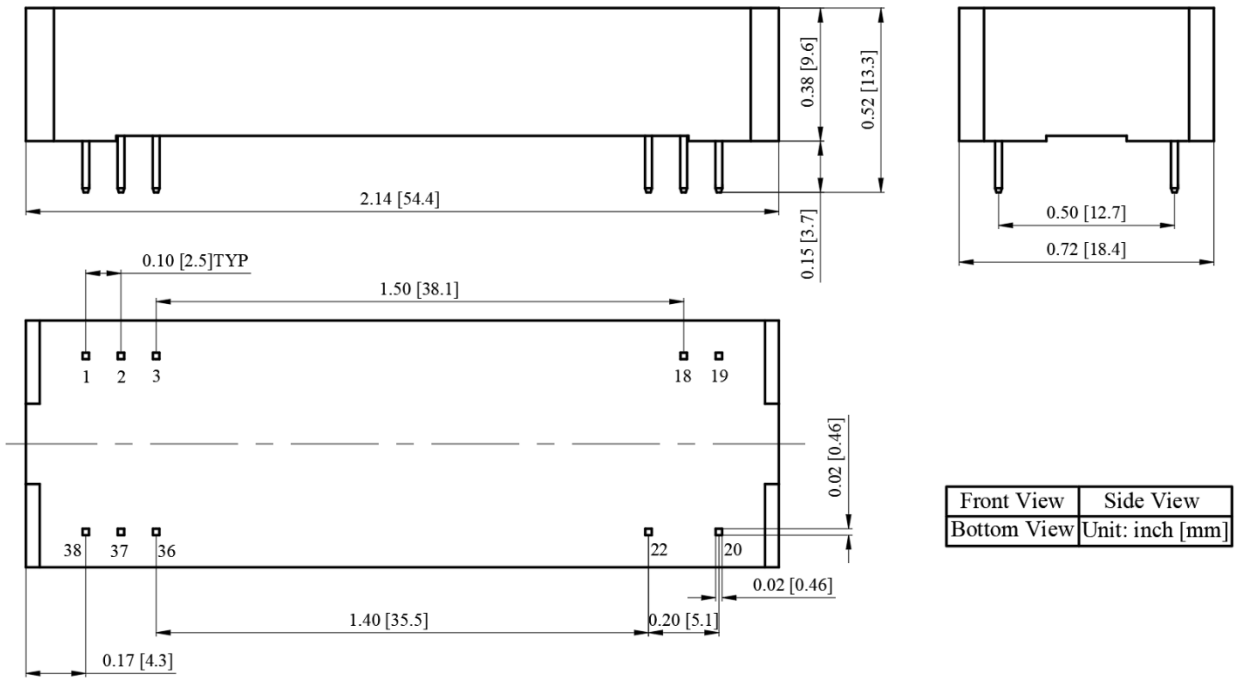


Figure 10.1. Dimensions of AD202JNATI & AD202KNATI DIP Package

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A. 8

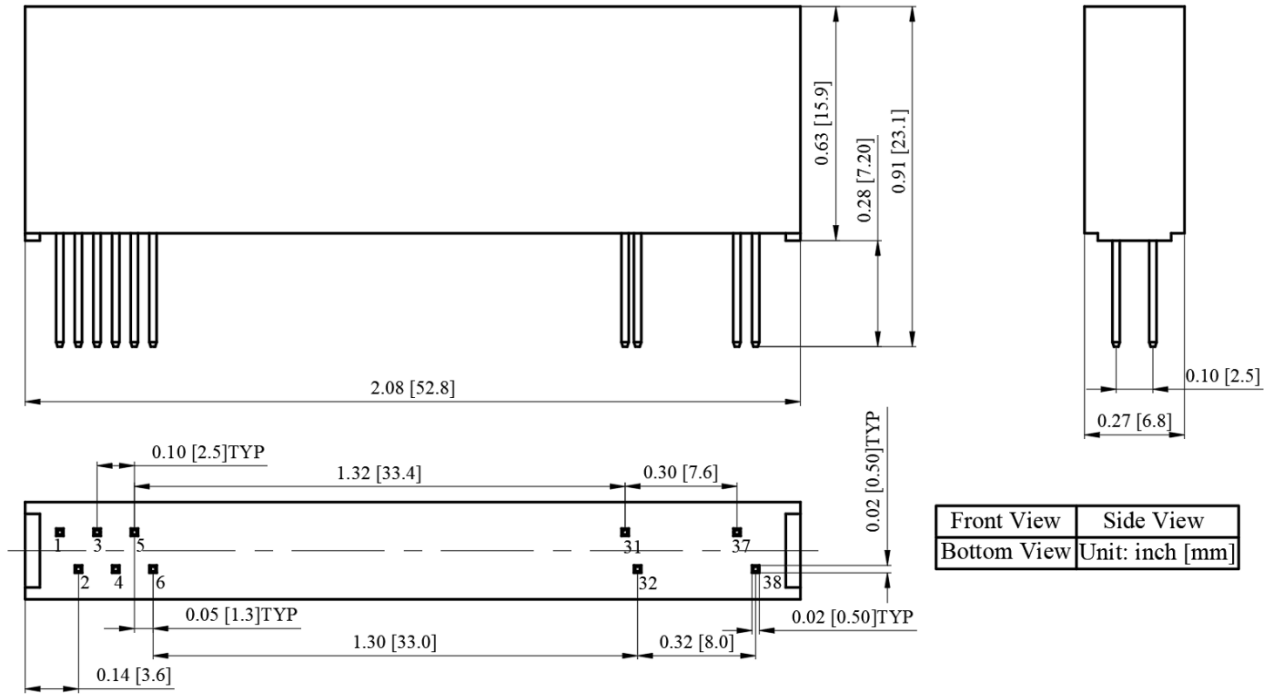


Figure 10.2. Dimensions of AD202JYATI & AD202KYATI SIP Package

NOTICE

1. ATI warrants performance of its products for one year to the specifications applicable at the time of sale, except for those damaged by excessive abuse. Products found not meeting the specifications within one year from the date of sale can be exchanged free of charge.

2. ATI reserves the right to make changes to its products or to discontinue any product or service without notice and advise customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current and complete.

3. All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgment, including those pertaining to warranty, patent infringement, and limitation of liability. Testing and other quality control techniques are utilized to the extent ATI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

4. Customers are responsible for their applications using ATI products. In order to minimize risks associated with the customers' applications, adequate design and operating safeguards must be provided by the customers to minimize inherent or procedural hazards. ATI assumes no liability for applications assistance or customer product design.

5. ATI does not warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of ATI covering or relating to any combination, machine, or process in which such products or services might be or are used. ATI's publication of information regarding any third party's products or services does not constitute ATI's approval, warranty or endorsement thereof.

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026 1161 Ringwood Ct, #110, San Jose, CA 95131, U. S. A.

6. IP (Intellectual Property) Ownership: ATI retains the ownership of full rights for special technologies and/or techniques embedded in its products, the designs for mechanics, optics, plus all modifications, improvements, and inventions made by ATI for its products and/or projects.

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 8/21/2026