



Figure 1. Photo of AD202KNATI

FEATURES

- Isolated Power Outputs
- Small Size: 4 Channels/Inch Low
- Uncommitted Input Amplifier
- High CMR: 130dB (Gain = 100V/V)
- High Accuracy: $\pm 0.2\%$ Max Nonlinearity
- High CMV Isolation: $\pm 2000\text{V}$ 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 AD202KN

We guarantee production for ≥ 10 years.

The AD202KNATI 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 DIP package offer a signal and power isolation function.

With internal transformer-coupling, the AD202KNATI 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 AD202KNATI 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 AD202KNATI

The AD202KNATI 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.

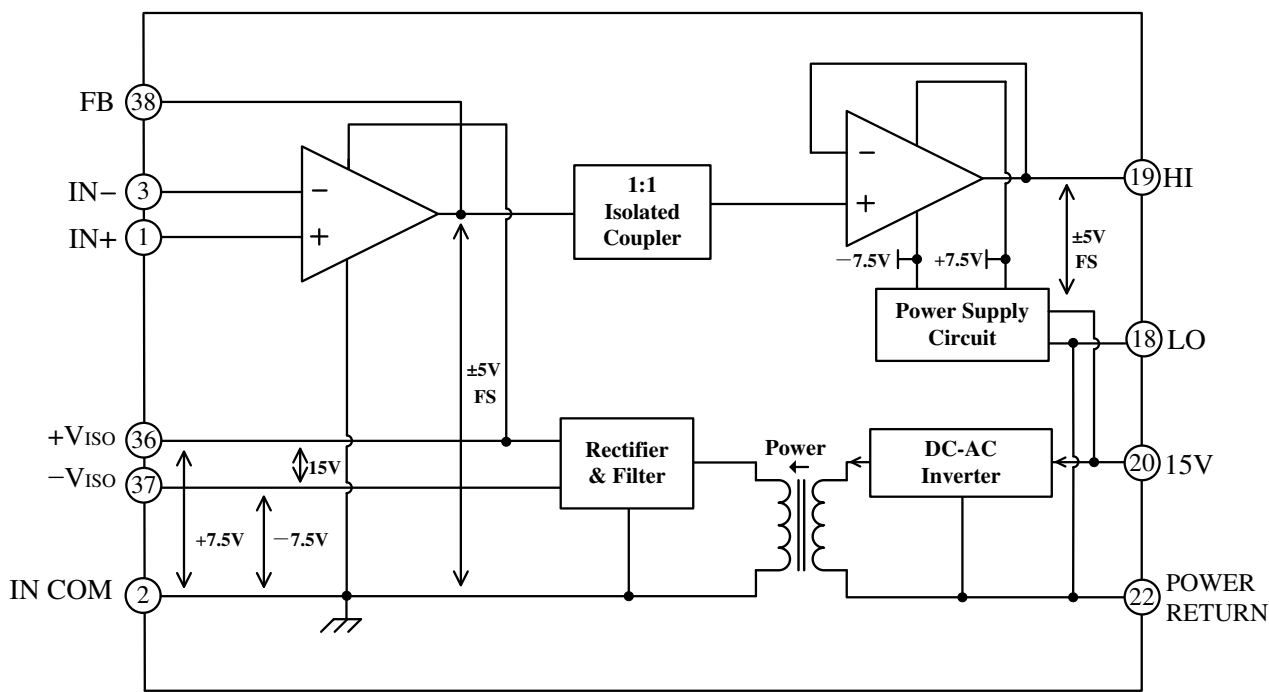


Figure 2. AD202KNATI Functional Block Diagram

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

Model	AD202KNATI
GAIN	
Range	1V/V–100 V/V
Error	±0.5% typ (±4% max)

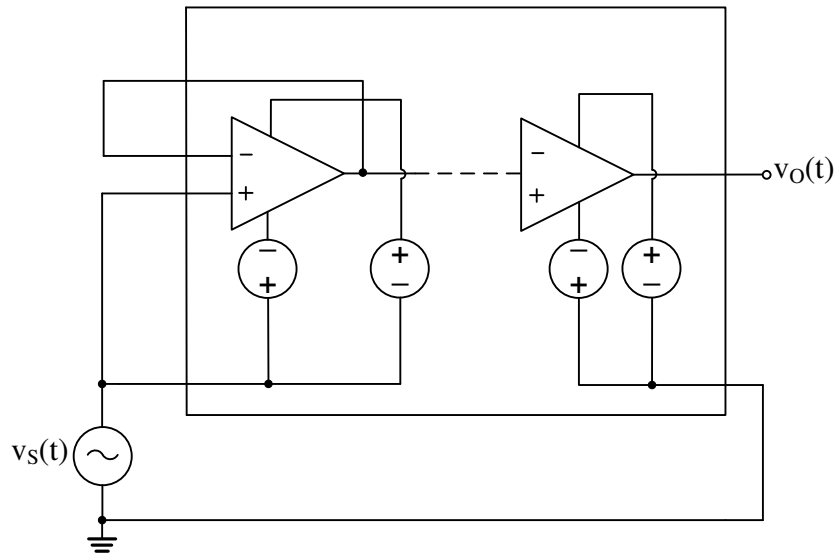


Figure 3. CMRR & CMTC Test Schematic

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
	36	+VISO OUT	Isolated power output	Isolated positive power supply output, +7.5V, referenced to pin 2 IN COM
	37	-VISO OUT	Isolated power output	Isolated negative power supply output, approximately -7.0V, referenced to pin 2 IN COM
	38	FB	Isolated analog output	Isolated op amp output as a feedback signal
Local Block	18	LO	Analog ground	Output voltage ground reference, internally connected to pin 22 POWER RETURN
	19	HI	Analog output	Op amp output, equals to the voltage difference between FB and IN COM
	20	15 V	Analog input	Positive 15V power supply input
	22	POWER RETURN	Analog input	Power supply return, internally connected to pin 18 GND

MECHANICAL DIMENSIONS

The dimensions of AD202KNATI in DIP package are shown in Figure 4.

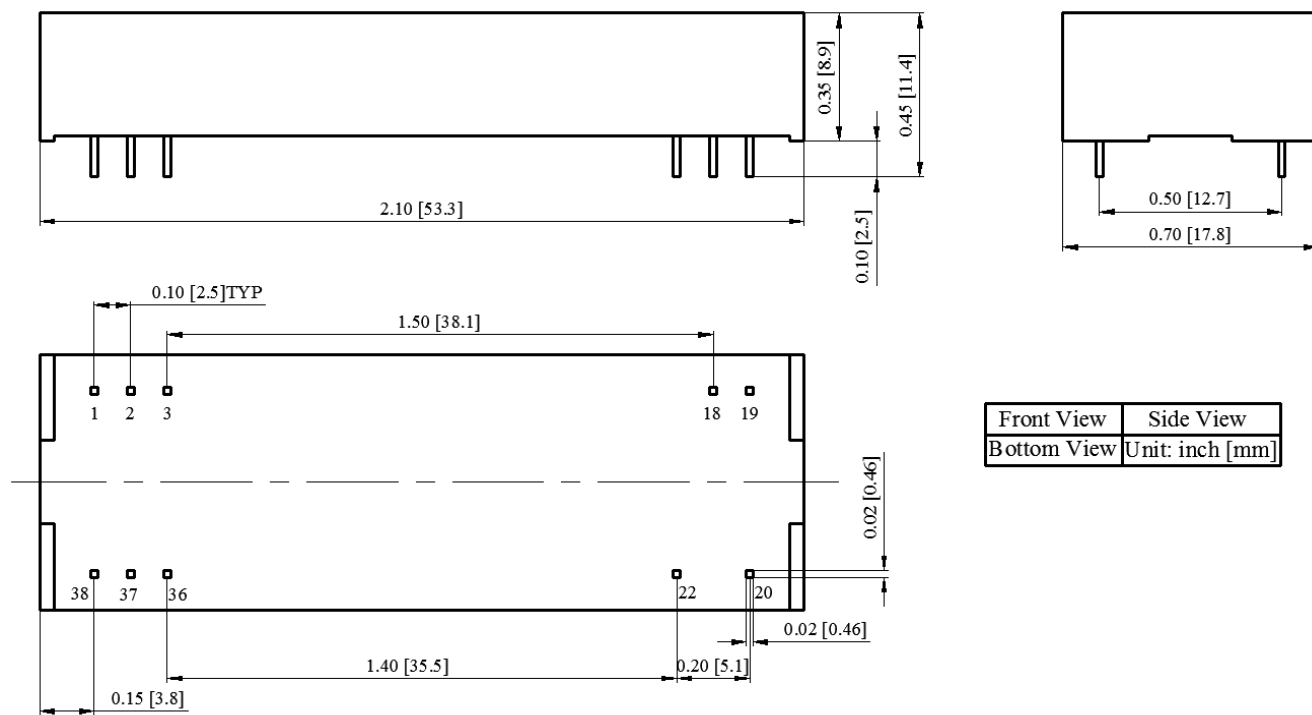


Figure 4. Dimensions of AD202KNATI DIP Package



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