

DAC 1-CH Delta-Sigma 16-bit 24-Pin SOIC W T/R

Manufacturers	Analog Devices, Inc
Package/Case	SOIC-24
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD420ARZ-32-REEL or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The AD420 is a complete digital to current loop output converter, designed to meet the needs of the industrial control market. It provides a high precision, fully integrated, low cost single-chip solution for generating current loop signals in a compact 24-pin SOIC or PDIP package.

The output current range can be programmed to 4 mA-20 mA, 0 mA-20 mA or an overrange function of 0 mA-24 mA. The AD420 can alternatively provide a voltage output from a separate pin that can be configured to provide 0 V-5 V, 0 V-10 V, ± 5 V or ± 10 V with the addition of a single external buffer amplifier.

The 3.3 M Baud serial input logic design minimizes the cost of galvanic isolation and allows for simple connection to commonly used microprocessors. It can be used in three-wire or asynchronous mode and a serial-out pin is provided to allow daisy chaining of multiple DACs on the current loop side of the isolation barrier.

The AD420 uses sigma-delta (SD) DAC technology to achieve 16-bit monotonicity at very low cost. Full-scale settling to 0.1% occurs within 3 ms. The only external components that are required (in addition to normal transient protection circuitry) are three low cost capacitors which are used in the DAC output filter.

If the AD420 is going to be used at extreme temperatures and supply voltages, an external output transistor can be used to minimize power dissipation on the chip via the "BOOST" pin.

The FAULT DETECT pin signals when an open circuit occurs in the loop. The on-chip voltage reference can be used to supply a precision +5 V to external components in addition to the AD420 or, if the user desires temperature stability exceeding 25 ppm/°C, an external precision reference such as the AD586 can be used as the reference.

The AD420 is available in a 24-pin SOIC and PDIP over the industrial temperature range of -40°C to +85°C.

Features

4mA-20 mA, 0 mA-20 or 0 mA-24 Current Output

16-Bit Resolution and Monotonicity

Flexible Serial Digital Interface (3.3. MBPS)

On-Chip Loop Fault Detection

On-Chip 5 V Reference (25 ppm/°C Max)

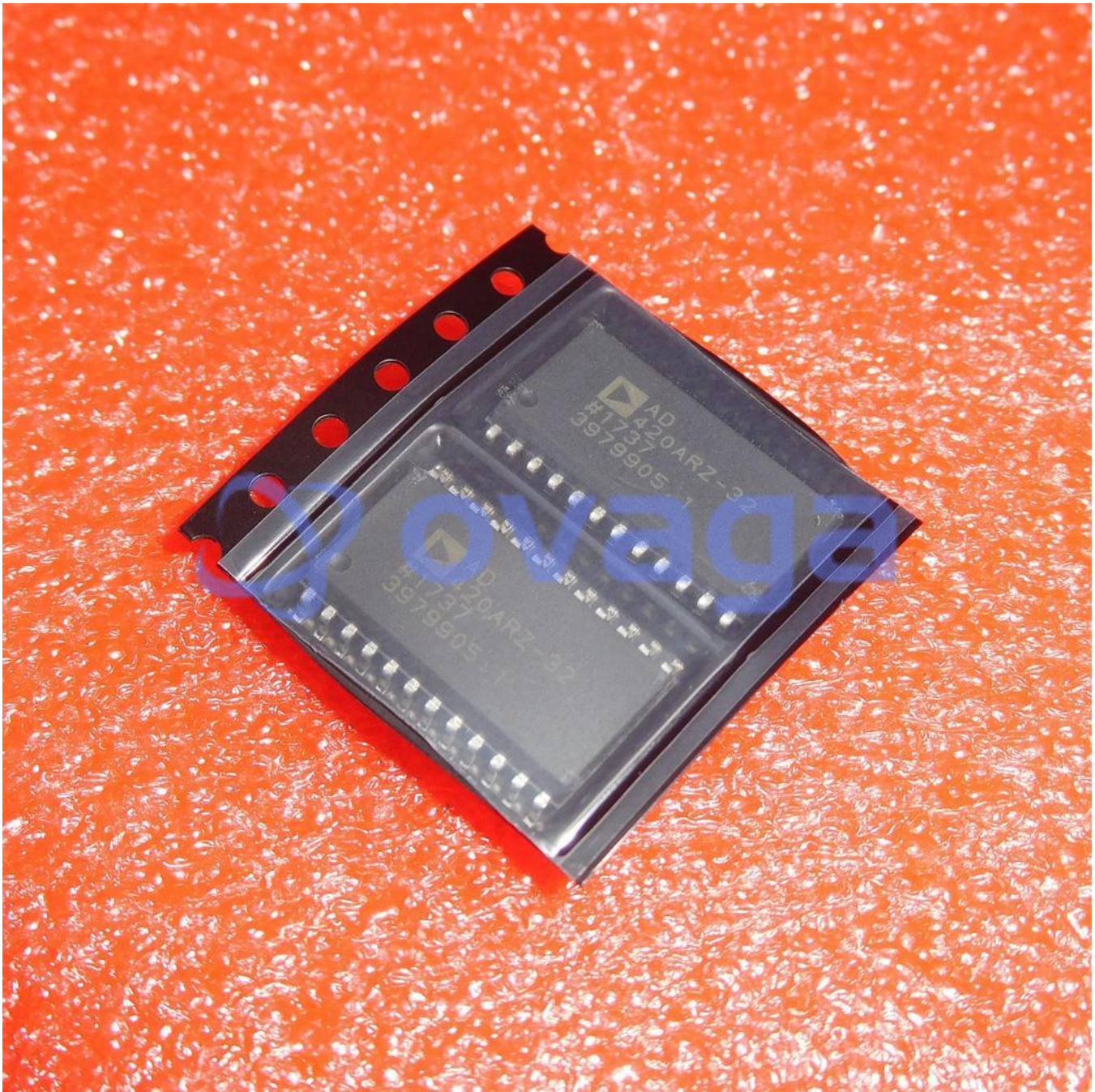
Asynchronous CLEAR Function

Maximum Power Supply Range of 32 V

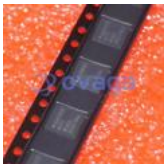
Output Loop Compliance of 0 V to Vcc-2.75 V

24-Lead SOIC and PDIP Packages



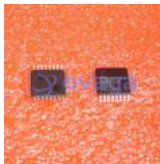


Related Products



[ADAS3022BCPZ](#)

Analog Devices, Inc
LFCSP-40



[AD7266BSUZ](#)

Analog Devices, Inc
TQPF-32



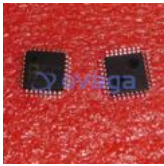
[AD574AJNZ](#)

Analog Devices, Inc
PDIP-28



[AD7401YRWZ](#)

Analog Devices, Inc
SOIC-16



[AD7938BSUZ](#)

Analog Devices, Inc
TQFP-32



[AD7192BRUZ-REEL](#)

Analog Devices, Inc
TSSOP-24



[AD7124-8BCPZ-RL7](#)

Analog Devices, Inc
LFCSP-32



[AD9680BCPZ-500](#)

Analog Devices, Inc
LFCSP-64