

Digital to Analogue Converter, Octal, 14 bit, 95 kSPS, SPI, 4.5V to 5.5V, TSSOP, 16 Pins

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	TSSOP-16
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD5648BRUZ-2 or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The AD5648 device is a low power, octal, 14-bit, buffered voltage-output DAC. All devices operate from a single 2.7 V to 5.5 V supply and are guaranteed monotonic by design. The AD5668 and AD5628 are available in both a 4 mm × 4 mm LFCSP and a 16-lead TSSOP, while the AD5648 is available in both a 14-lead and 16-lead TSSOP.

The AD5628/AD5648/AD5668 have an on-chip reference with an internal gain of 2. The AD5628-1/AD5648-1/AD5668-1 have a 1.25 V 5 ppm/°C reference, giving a full-scale output range of 2.5 V; the AD5628-2/AD5648-2/AD5668-2 and AD5668-3 have a 2.5 V 5 ppm/°C reference, giving a full-scale output range of 5 V. The on-board reference is off at power-up, allowing the use of an external reference. The internal reference is enabled via a software write.

The part incorporates a power-on reset circuit that ensures that the DAC output powers up to 0 V (AD5628-1/AD5648-1/AD5668-1, AD5628-2/AD5648-2/AD5668-2) or midscale (AD5668-3) and remains powered up at this level until a valid write takes place. The part contains a power-down feature that reduces the current consumption of the device to 400 nA at 5 V and provides software-selectable output loads while in power-down mode for any or all DAC channels. The outputs of all DACs can be updated simultaneously using the LDAC function, with the added functionality of user-selectable DAC channels to simultaneously update. There is also an asynchronous CLR that updates all DACs to a user-programmable code—zero scale, midscale, or full scale.

The AD5628/AD5648/AD5668 utilize a versatile 3-wire serial interface that operates at clock rates of up to 50 MHz and is compatible with standard SPI®, QSPI™, MICROWIRE™, and DSP interface standards. The on-chip precision output amplifier enables rail-to-rail output swing.

### Product Highlights

Octal, 12-/14-/16-bit DAC.

On-chip 1.25 V/2.5 V, 5 ppm/°C reference.

Available in 14-lead/16-lead TSSOP, 16-lead LFCSP, and 16-ball WLCSP.

Power-on reset to 0 V or midscale.

Power-down capability: When powered down, the DAC typically consumes 200 nA at 3 V and 400 nA at 5 V.

## Features

Low power, small footprint, pin-compatible octal DACs: 14 bits

14-lead/16-lead TSSOP, 16-lead LFCSP, and 16-ball WLCSP

On-chip 1.25 V/2.5 V, 5 ppm/°C reference

Power down to 400 nA at 5 V, 200 nA at 3 V

2.7 V to 5.5 V power supply

Guaranteed monotonic by design

Power-on reset to zero scale or midscale

3 power-down functions

Hardware LDAC and LDAC override function

CLR function to programmable code

Rail-to-rail operation

## Application

Process control

Data acquisition systems

Portable battery-powered instruments

Digital gain and offset adjustment

Programmable voltage and current sources

Programmable attenuators

## Related Products



[ADAS3022BCPZ](#)

Analog Devices, Inc  
LFCSP-40



[AD574AJNZ](#)

Analog Devices, Inc  
PDIP-28



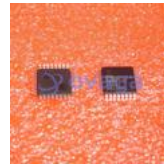
[AD7938BSUZ](#)

Analog Devices, Inc  
TQFP-32



[AD7124-8BCPZ-RL7](#)

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[AD9680BCPZ-500](#)

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LFCSP-64