

Quad-Channel, Software Configurable Analog Output

FEATURES

- ▶ Quad-channel software configurable analog output
- ▶ 16-bit monotonic DAC, per channel
- ▶ Current output range:
 - ▶ 0mA to 25mA
 - ▶ 0mA to 20mA
 - ▶ 4mA to 20mA
- ▶ Voltage output:
 - ▶ 0V to 12V
 - ▶ $\pm 12V$
- ▶ Adaptive power switching drivers, integrated dual-rail adaptive power switching drivers, which reduce power dissipation by 40% in current output mode
- ▶ On-chip diagnostics including open-circuit and short-circuit detection
- ▶ Overvoltage up to $\pm 50V$ tolerant on screw terminal facing pins, powered or unpowered
- ▶ Wide-power supply range
- ▶ Internal 10ppm/ $^{\circ}C$ reference
- ▶ SPI compatible
- ▶ $-40^{\circ}C$ to $+105^{\circ}C$ operating temperature range
- ▶ Available in 48-lead 7mm \times 7mm \times 0.75mm (with exposed pad) LFCSP (CP-48-13)

APPLICATIONS

- ▶ Factory automation
- ▶ Actuator control
- ▶ Group isolated analog outputs
- ▶ PLC and DCS applications
- ▶ HART network connectivity

GENERAL DESCRIPTION

The AD5460 is a quad-channel, voltage, and current output digital-to-analog converter (DAC) that operates with a wide range of power supply and flexible configurations. The AD5460 has adaptive power switching drivers. On-chip power dissipation is minimized by using an integrated adaptive power switching supply driver on each channel. In adaptive power switching drivers, select the required power supply voltage by choosing between the high voltage supply (AVDD_HI) and the low voltage supply (AVDD_LO), which depends on the output voltage level required. The CHART pin enables a HART signal to be coupled onto the current output.

The device uses a versatile 4-wire serial-peripheral interface (SPI) and is compatible with standard SPI, QSPI™, MICROWIRE™, DSP, and microcontroller interface standards. The interface also features SPI cyclic redundancy check (CRC) and a watchdog timer.

FUNCTIONAL BLOCK DIAGRAM

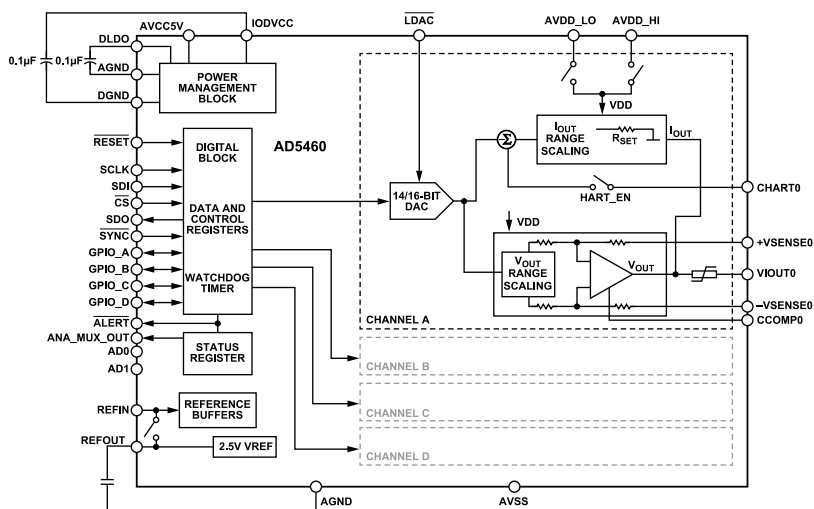


Figure 1. AD5460 Functional Block Diagram

For more details on the AD5460, contact the local Analog Devices, Inc., sales office at www.analog.com/sales.

NOTES