QUAD, 10-BIT, LOW-POWER, VOLTAGE OUTPUT, I^2C INTERFACE DIGITAL-TO-ANALOG CONVERTER

FEATURES

- *Micro*power Operation: 500 µA at 3 V V_{DD}
- Fast Update Rate: 188 kSPS
- Per-channel Power-down Capability
- Power-On Reset to Zero
- 2.7-V to 5.5-V Analog Power Supply
- 10-Bit Monotonic
- I^2C™ Interface Up to 3.4 Mbps
- Data Transmit Capability
- On-Chip Output Buffer Amplifier, Rail-to-Rail Operation
- Double-Buffered Input Register
- Address Support for up to Four DAC6574s
- Synchronous Update Support for up to 16 Channels
- Operation From –40°C to 105°C
- Small 10 Lead MSOP Package

APPLICATIONS

- Process Control
- Data Acquisition Systems
- Closed-Loop Servo Control
- PC Peripherals
- Portable Instrumentation

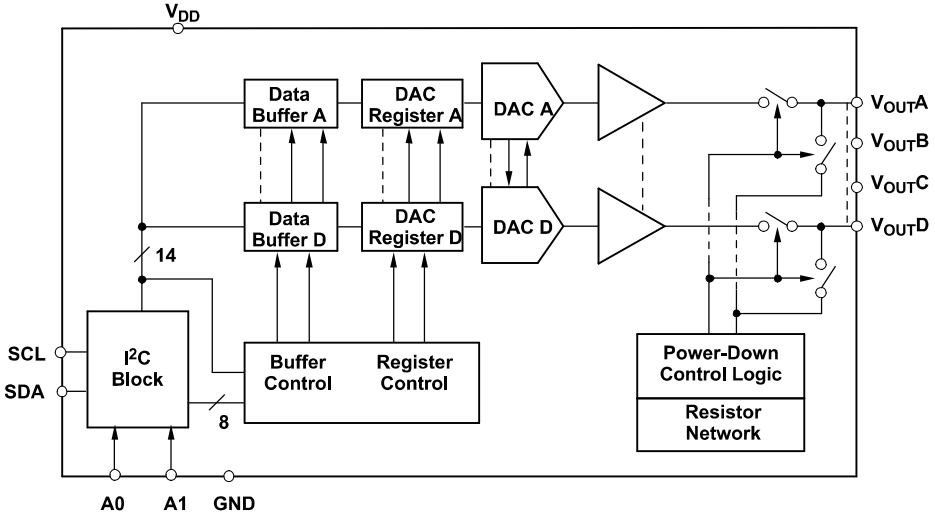
DESCRIPTION

The DAC6574 is a low-power, quad channel, 10-bit buffered voltage output DAC. Its on-chip precision output amplifier allows rail-to-rail output swing to be achieved. The DAC6574 utilizes an I^2C compatible two wire serial interface supporting high-speed interface mode with address support of up to four DAC6574s for a total of 16 channels on the bus.

The DAC6574 uses V_{DD} and GND to set the output range of the DAC. The DAC6574 incorporates a power-on-reset circuit that ensures that the DAC output powers up at zero volts and remains there until a valid write takes place to the device. The DAC6574 contains a per-channel power-down feature, accessed via the internal control register, that reduces the current consumption of the device to 200 nA at 5 V.

The low power consumption of this part in normal operation makes it ideally suited to portable battery operated equipment. The power consumption is less than 3mW at V_{DD} = 5 V reducing to 1 µW in power-down mode.

TI offers a variety of data converters with I^2C interface. See DACx57x family of 16/12/10/8 bit, single and quad channel DACs. Also see ADS7823 and ADS1100, 12-bit octal channel and 16-bit single channel ADCs.



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