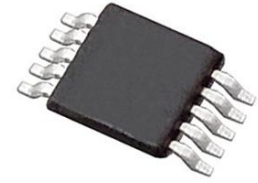


Digital Potentiometer 10kOhm 256POS Volatile Linear 10-Pin MSOP Tube



Images are for reference only

[Inquiry](#)

Manufacturer: [Analog Devices, Inc](#)

Package/Case: MSOP10

Product Type: Data Conversion ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The AD5200 and AD5201 are programmable resistor devices, with 256 positions and 33 positions respectively, that can be digitally controlled through a 3-wire SPI serial interface. The terms programmable resistor, variable resistor (VR), and RDAC are commonly used interchangeably to refer to digital potentiometers. These devices perform the same electronic adjustment functions as a potentiometer or variable resistor. Both AD5200/AD5201 contain a single variable resistor in the compact MSOP package. Each device contains a fixed wiper resistance at the wiper contact that taps the programmable resistance at a point determined by a digital code. The code is loaded in the serial input register. The resistance between the wiper and either end point of the programmable resistor varies linearly with respect to the digital code transferred into the VR latch. Each variable resistor offers a completely programmable value of resistance, between the A terminal and the wiper, or the B terminal and the wiper. The fixed A-to-B terminal resistance of 10 k Ω or 50 k Ω has a nominal temperature coefficient of 500 ppm/ $^{\circ}$ C. The VR has a VR latch that holds its programmed resistance value. The VR latch is updated from an SPI-compatible serial-to-parallel shift register that is loaded from a standard 3-wire serial-input digital interface. Eight data bits for the AD5200 and six databits for the AD5201 make up the data word that is clocked into the serial input register. The internal preset forces the wiper to the midscale position by loading 80H and 10H into AD5200 and AD5201 VR latches respectively. The SHDN pin forces the resistor to an end-to-end open-circuit condition on the A terminal and shorts the wiper to the B terminal, achieving a microwatt power shutdown state. When SHDN is returned to logic high, the previous latch setting puts the wiper in the same resistance setting prior to shutdown. The digital interface is still active during shutdown so that code changes can be made that will produce a new wiper position when the device is returned from shutdown.

All parts are guaranteed to operate over the extended industrial temperature range of -40° C to $+85^{\circ}$ C.

Circuit Applications:

Mechanical Potentiometer Replacement

Instrumentation: Gain, Offset Adjustment

Programmable Voltage to Current Conversion

Programmable Filters, Delays, Time Constants

Line Impedance Matching

Key Features

Internal power-ON midscale preset
3-wire SPI-compatible serial data input

Application

Mechanical Potentiometer Replacement
Instrumentation: Gain, Offset Adjustment
Programmable Voltage to Current Conversion
Programmable Filters, Delays, Time Constants
Line Impedance Matching

Recommended For You

AD5262BRUZ00

Analog Devices, Inc
TSSOP16

AD8402ARUZ0

Analog Devices, Inc
TSSOP-14

AD5160BRJZ50-RL7

Analog Devices, Inc
SOT23-8

AD8400ARZ50

Analog Devices, Inc
SOP8

AD5280BRUZ20

Analog Devices, Inc
TSSOP14

AD5262BRUZ50

Analog Devices, Inc
TSSOP16

AD5204BRUZ10

Analog Devices, Inc
TSSOP24

AD5207BRUZ10

Analog Devices, Inc
TSSOP14

AD5160BRJZ10-R2

Analog Devices, Inc
SOT23-8

AD5220BNZ100

Analog Devices, Inc
8-PDIP

AD5259BRMZ100-R7

Analog Devices, Inc
MSOP10

AD5143BCPZ10-RL7

Analog Devices, Inc
16-LFCSP

AD8402ARUZI

Analog Devices, Inc
TSSOP-14

AD5263BRUZ200

Analog Devices, Inc
TSSOP24

AD5260BRUZ20

Analog Devices, Inc
TSSOP14