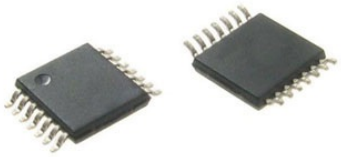
AD5252BRUZ1

Data Sheet

Non Volatile Digital Potentiometer, 1 kohm, Dual, I2C, Serial, Linear, ± 30%, 2.7 V

Manufacturers	Analog Devices, Inc
Package/Case	TSSOP14
Product Type	Data Acquisition - Digital Potentiometers
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD5252BRUZ1 or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The AD5252 is a dual-channel, I2C, nonvolatile memory,digitally controlled potentiometer with 256 positions. These devices perform the same electronic adjustmentfunctions as mechanical potentiometers, trimmers, andvariable resistors. The parts' versatile programmability allowsmultiple modes of operation, including read/write access in theRDAC and EEMEM registers, increment/decrement of resistance,resistance changes in ±6 dB scales, wiper setting readback,and extra EEMEM for storing user-defined information, such asmemory data for other components, look-up table, or systemidentification information.

The AD5251/AD5252 allow the host I2C controllers to writeany of the 64-/256-step wiper settings in the RDAC registersand store them in the EEMEM. Once the settings are stored,they are restored automatically to the RDAC registers at systempower-on; the settings can also be restored dynamically.

The AD5251/AD5252 provide additional increment,decrement, +6 dB step change, and –6 dB step change insynchronous or asynchronous channel update mode. Theincrement and decrement functions allow stepwise linearadjustments, with a ± 6 dB step change equivalent to doublingor halving the RDAC wiper setting. These functions are usefulfor steep-slope, nonlinear adjustments, such as white LEDbrightness and audio volume control.

The AD5251/AD5252 have a patented resistance-tolerancestoring function that allows the user to access the EEMEM andobtain the absolute end-to-end resistance values of the RDACsfor precision applications.

The AD5251/AD5252 are available in TSSOP-14 packages.AD5251 has only 50 kΩ resistance options and AD5252 isavailable in 1 kΩ, 10 kΩ, 50 kΩ, and 100 kΩ options. All partsare guaranteed to operate over the –40°C to +105°C extendedindustrial temperature range.

Features

Dual 256-position resolution

1 kΩ, 10 kΩ, 50 kΩ, 100 kΩ

Nonvolatile memory stores wiper setting w/write protection

Power-on refreshed with EEMEM settings in 300 µs typ

EEMEM rewrite>

Resistance tolerance stored in nonvolatile memory

12 extra bytes in EEMEM for user-defined information

I2C-compatible serial interface

Direct read/write access of RDAC and EEMEM registers

Predefined linear increment/decrement commands

Predefined ±6 dB step change commands

Synchronous or asynchronous dual-channel update

Wiper setting readback

4 MHz bandwidth—1 kΩ version

Single supply 2.7 V to 5.5 V

Dual supply ±2.25 V to ±2.75 V

2 slave address decoding bits allow operation of 4 devices

100-year typical data retention,>

Operating temperature: –40°C to +105°C

Application

Mechanical potentiometer replacement

General-purpose DAC replacement

LCD panel VCOM adjustment

White LED brightness adjustment

RF base station power amp bias control

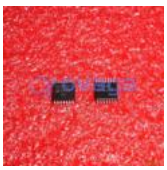
Programmable gain and offset control

Programmable voltage-to-current conversion

Programmable power supply

Sensor calibrations

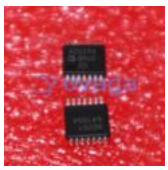
Related Products



AD5292BRUZ-20

Analog Devices, Inc

14TSSOP



AD5293BRUZ-20

Analog Devices, Inc

TSSOP-14

AD5242BRZ10

Analog Devices, Inc

SOIC-16

AD8403ARZ10

Analog Devices, Inc

SOIC-24

[AD5142ABCPZ10-RL7]

Analog Devices, Inc

LFCSP-16

[AD5254BRUZ10]

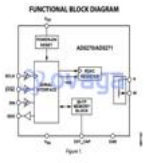
Analog Devices, Inc

TSSOP20

[AD8400ARZ10]

Analog Devices, Inc

SOIC-8



[AD5270BRMZ-20]

Analog Devices, Inc

MSOP-10