Non Volatile Digital Potentiometer, 50 kohm, Quad, I2C, Serial, Linear, ± 30%, 2.25 V

Manufacturers	Analog Devices, Inc
Package/Case	TSSOP-20
Product Type	Data Acquisition - Digital Potentiometers
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for AD5254BRUZ50 or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The parts' versatile programmability allows multiple modes of operation, including read/write access in the RDAC 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 as memory data for other components, look-up table, or system identification information.

The AD5253/AD5254 allow the host I2C controllers to write any of the 64-/256-step wiper settings in the RDAC registers and store them in the EEMEM. Once the settings are stored, they are restored automatically to the RDAC registers at system power-on; the settings can also be restored dynamically.

The AD5253/AD5254 provide additional increment, decrement, +6 dB step change, and –6 dB step change in synchronous or asynchronous channel update mode. The increment and decrement functions allow stepwise linear adjustments, with a ± 6 dB step change equivalent to doubling or halving the RDAC wiper setting. These functions are useful for steep-slope, nonlinear adjustments, such as white LED brightness and audio volume control.

The AD5253/AD5254 have a patented resistance-tolerance storing function that allows the user to access the EEMEM and obtain the absolute end-to-end resistance values of the RDACs for precision applications.

The AD5253/AD5254 are available in TSSOP-20 packages in 1 kΩ, 10 kΩ, 50 kΩ, and 100 kΩ options. All parts are guaranteed to operate over the –40°C to +85°C extended industrial temperature range.

1The terms nonvolatile memory and EEMEM are used interchangeably.

2The terms digital potentiometer and RDAC are used interchangeably.

Features

Quad 256-position resolution

1 kΩ, 10 kΩ, 50 kΩ, 100 kΩ

Nonvolatile memory1 stores wiper settings w/write protection

Power-on refreshed to 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 RDAC2 and EEMEM registers

Predefined linear increment/decrement commands

Predefined ±6 dB step change commands

See data sheet for additional features

Application

Mechanical potentiometer replacement

Low resolution DAC replacement

RGB LED backlight control

White LED brightness adjustment

RF base station power amp bias control

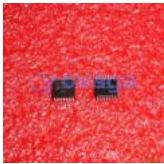Programmable gain and offset control

Programmable attenuators

Programmable voltage-to-current conversion
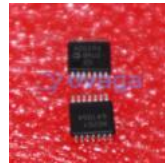
Programmable power supply

Programmable filters

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

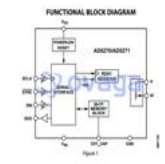SOIC-24

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