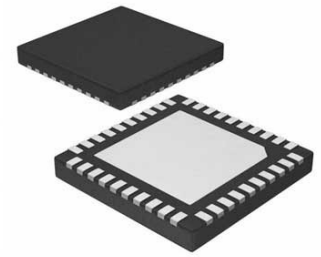


AFE General Purpose 8 ADC 24bit 3.3V Automotive 40-Pin UQFN EP Tube



Images are for reference only

[Inquiry](#)

Manufacturer: [Microchip Technology, Inc](#)

Package/Case: QFN40

Product Type: Data Conversion ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The MCP3914 is a 3V eight-channel Analog Front End(AFE, containing eight synchronous sampling delta-sigma ADCs, eight PGAs, phase delay compensation block, low-drift internal voltage reference, digital offset and gain error calibration registers, and high-speed 20 MHz SPI compatible serial interface. The MCP3914 ADCs are fully configurable, with features such as: 16/24-bit resolution, Oversampling Ratio (OSR) from 32 to 4096, gain from 1x to 32x, independent Shutdown and Reset, dithering and auto-zeroing. The MCP3914 includes advanced security features to secure the communications and the configuration settings, such as a CRC-16 checksum on both serial data outputs and static register map configuration. It also includes a register-map lock through an 8-bit secure key to stop unwanted write commands from processing. The MCP3914 is capable of interfacing with a variety of voltage and current sensors, including shunts, current transformers, Rogowski coils and Hall-effect sensors.

Key Features

94.5dB SINAD, -107dBc Total harmonic distortion (THD) (up to 35th harmonic)

112dBFS SFDR for each channel

Enables 0.1% typical active power measurement error over a 10,000:1 dynamic range

16-bit Cyclic redundancy check (CRC) checksum on all communications for secure data transfers

16-bit CRC checksum and interrupt alert for register map configuration

Register map lock with 8-bit secure key

Programmable data rate up to 125ksps

4MHz Maximum sampling frequency, 16MHz Maximum master clock

Ultra low-power shutdown mode with <10μA

-122dB Crosstalk between the two channels

9ppm/°C Low drift 1.2V internal voltage reference

Differential voltage reference input pins

High gain PGA on each channel (up to 32V/V)

Phase delay compensation with 1μs time resolution

Separate data ready pin for easy synchronization

Individual 24-bit Digital offset and gain error correction for each channel

High-speed 20MHz SPI Interface with mode 0,0 and 1,1 compatibility

Continuous read/write modes for minimum communication

Recommended For You

MCP3911A0-E/SS

Microchip Technology, Inc
SSOP20

MCP3008-I/P

Microchip Technology, Inc
DIP-16

MCP3201T-CI/SN

Microchip Technology, Inc
SOP8

MCP3208-CI/P

Microchip Technology, Inc
DIP

MCP3001-I/SN

Microchip Technology, Inc
SOP8

MCP3208-BI/P

Microchip Technology, Inc
DIP-16

MCP4822-E/P

Microchip Technology, Inc
DIP-8

MCP3421A0T-E/CH

Microchip Technology, Inc
SOT23-6

MCP3425A0T-E/CH

Microchip Technology, Inc
SOT23-6

MCP3427-E/UN

Microchip Technology, Inc

MSOP10

MCP3550-50E/SN

Microchip Technology, Inc

SOP8

MCP3422A0-E/SN

Microchip Technology, Inc

SOP-8

MCP3553-E/SN

Microchip Technology, Inc

SOP8

MCP3422A1-E/SN

Microchip Technology, Inc

SOP-8

MCP3208T-CI/SL

Microchip Technology, Inc

SOP