

SP Amp Current Sense Amp Dual R-R O/P 5.5V Automotive 10-Pin VSSOP T/R

Manufacturer:	Texas Instruments, Inc	INA2181A4QDGSRQ1 Image
Package/Case:	VSSOP10	Images are for reference only
Product Type:	Amplifier ICs	Inquiry
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

The INA181-Q1, INA2181-Q1, and INA4181-Q1 (INAx181-Q1) current sense amplifiers are designed for cost-optimized applications. These devices are part of a family of bidirectional, current-sense amplifiers (also called current-shunt monitors) that sense voltage drops across current-sense resistors at common-mode voltages from -0.2 V to $+26\text{ V}$, independent of the supply voltage. The INAx181-Q1 family integrates a matched resistor gain network in four, fixed-gain device options: 20 V/V, 50 V/V, 100 V/V, or 200 V/V. This matched gain resistor network minimizes gain error and reduces the temperature drift. These devices operate from a single 2.7-V to 5.5-V power supply. The single-channel INA181-Q1 draws a maximum supply current of $260\text{ }\mu\text{A}$; whereas, the dual-channel INA2181-Q1 draws a maximum supply current of $500\text{ }\mu\text{A}$, and the quad-channel INA4181-Q1 draws a maximum supply current of $900\text{ }\mu\text{A}$. The INA181-Q1 is available in a 6-pin, SOT-23 package. The INA2181-Q1 is available in a 10-pin, VSSOP package. The INA4181-Q1 is available in a 20-pin, TSSOP package. All device options are specified over the extended operating temperature range of -40°C to $+125^{\circ}\text{C}$.

Key Features

AEC-Q100 qualified for automotive applications

Temperature grade 1: $-40^{\circ}\text{C} \leq T$

A

HBM ESD classification level 2

CDM ESD classification level C6

Functional Safety-Capable

Documentation available to aid functional safety system design

Common-mode range (V

CM

High bandwidth: 350 kHz (A1 devices)

Offset voltage:

CM

CM

Output slew rate: 2 V/ μs

Bidirectional current-sensing capability

Accuracy:

1- $\mu\text{V}/^{\circ}\text{C}$ offset drift (maximum)

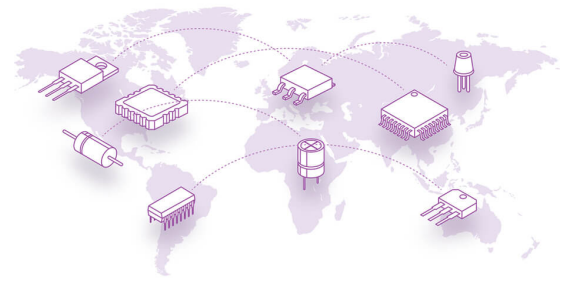
20 V/V (A1 devices)

50 V/V (A2 devices)

100 V/V (A3 devices)

200 V/V (A4 devices)

Quiescent current: 260 μA maximum (INA181-Q1)



Recommended For You

INA823DT

Texas Instruments, Inc

SOP8

INA333AIDRGR

Texas Instruments, Inc

SON-8

INA101AM

Texas Instruments, Inc

CAN10

INA141UA

Texas Instruments, Inc

SOP8

INA111AP

Texas Instruments, Inc

DIP8

INA101AG

Texas Instruments, Inc

DIP

INA116UA

Texas Instruments, Inc

SOP16

INA333AIDRGT

Texas Instruments, Inc

SON8

INA101SM

Texas Instruments, Inc

CAN10

INA129PA

Texas Instruments, Inc

DIP8

INA101CM

Texas Instruments, Inc

CAN10

INA141PA

Texas Instruments, Inc

DIP

TLV2254IN

Texas Instruments, Inc

DIP-14

TLV2464IN

Texas Instruments, Inc

DIP14

INA2126UA

Texas Instruments, Inc

SOP16