

SP Amp Current Sense Amp Dual R-R O/P 5.5V Automotive 8-Pin VSSOP T/R

Manufacturer:	Texas Instruments, Inc	<input type="text" value="INA2180A1QDGKRQ1 Image"/>
Package/Case:	VSSOP-8	Images are for reference only
Product Type:	Amplifier ICs	<input type="button" value="Inquiry"/>
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

The INA180 -Q1, INA2180 -Q1, and INA4180 -Q1 (INAx180 -Q1) current sense amplifiers are designed for cost-optimized applications. These devices are part of a family of 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 INAx180 -Q1 integrate 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.

All these devices operate from a single 2.7-V to 5.5-V power supply. The single-channel INA180 -Q1 draws a maximum supply current of 260 μA ; whereas, the dual-channel INA2180 -Q1 draws a maximum supply current of 500 μA , and the quad channel draws a maximum supply current of 900 μA .

The INA180 -Q1 is available in a 5-pin, SOT-23 package with two different pin configurations. The INA2180 -Q1 is available in a 8-pin, VSSOP package. The INA4180 -Q1 is available in a 14-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: $-40^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$

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}): $-0.2\text{ V to }+26\text{ V}$

High bandwidth: 350 kHz (A1 devices)

Offset voltage:
 $\pm 150\ \mu\text{V}$ (maximum) at $V_{CM} = 0\text{ V}$

$\pm 500\ \mu\text{V}$ (maximum) at $V_{CM} = 12\text{ V}$

Output slew rate: 2 V/ μs

Accuracy:
 $\pm 1\%$ gain error (maximum)

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

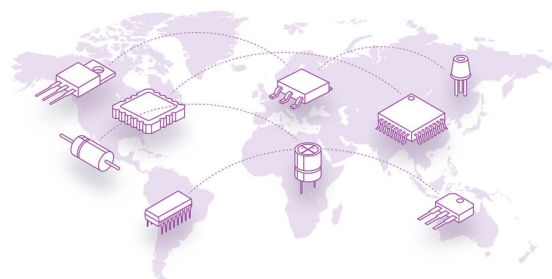
Gain options:
20 V/V (A1 devices)

50 V/V (A2 devices)

100 V/V (A3 devices)

200 V/V (A4 devices)

Quiescent current: 260 μA maximum (INA180-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