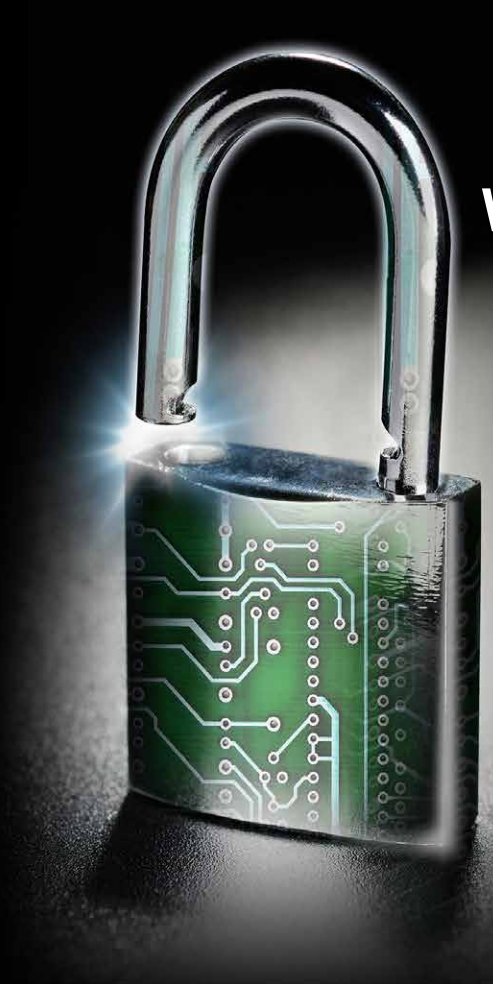


Unlock new possibilities

With the TI Precision Amplifier Quickstart Kit

Kit includes -

Samples - *OPA313, OPA314, OPA316, OPA170, OPA171, OPA172*

EVM - *DIP Adapter Evaluation Module for prototyping surface mount ICs*

TIDesigns PRECISION

Reference
Circuits complete with
- Theory
- Calculations
- Simulation
- Design Methodology

Verified
Reference +
- Schematics
- Bench Results
- Layout & Design Files

CerTIfied
Verified +
Certification testing results for ESD, EMI and more

Quickstart Kit featured designs include:

TIPD128 - Capacitive load drive verified reference design using an isolation resistor

TIPD148 - Level translation: dual to single supply amp, ±15 V to 5 V

TIPD145 - Single-supply op amp with drive to true GND

TIPD114 - Data acquisition at 1 kHz AC, 1 mW, 18 bit, 1 MSPS reference design

TIPD116 - Data acquisition block for ECG systems, discrete LEAD I ECG implementation reference design

TIPD131 - Single-ended-input-to-differential-output conversion circuit reference design

Capacitive load drive verified reference design using an isolation resistor

TIPD128

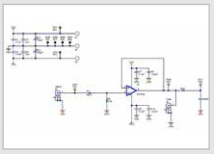
Description

This TI Verified Design implements a variety of op amps driving capacitive loads from 100 pF to 1 µF using an isolation resistor. This design can be used to drive capacitive loads such as cable shields, reference buffers, MOSFET gates, and diodes.

Features

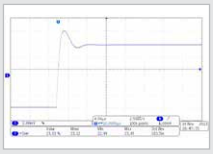
- Supply Voltage: 30 V (±15 V)
- Capacitive Loads: 100 pF, 1000 pF, 0.01 µF, 0.1 µF, 1 µF

Schematic/Block Diagram
Quickly understand overall system functionality.



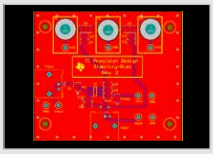
Download Schematic

Test Data
Get results faster with test and simulation data that's been verified.



Download Test Data

Design Files
Download ready-to-use system files to speed your design process.



Download Design File

Fully assembled board (shown above) developed for testing and performance validation only. Not available for sale.

Go to www.ti.com/precisiondesigns to learn more

Texas Instruments

TI Precision Amplifier Quickstart Kit

Simplifies op amp selection, design, and evaluation with two precision amplifier families and DIP Adapter Evaluation Module for prototyping surface mount ICs.

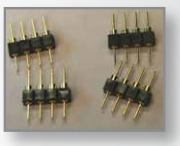
- Low-voltage, microPower amplifiers: OPA313, OPA314 and OPA316
- Wide-supply, microPower amplifiers: OPA170, OPA171 and OPA172

Device	Channels	Packages	Iq (max, mA)	Bandwidth (MHz)	Slew Rate (V/µs)	Offset (max, mV)	Noise (nV/√Hz)	Supply Range (min to max, V)	Price (single, $/1k)
Low-voltage OPA31x family: Best-in-class bandwidth-to-power ratio with microPower and RRIO									
OPA313	Single	SC70-5(DCK), SOT23-5(DBV)	0.06	1	0.5	2.5	25	1.8 to 5.5	0.26
	Dual	SO-8(D), MSOP-8(DGK), DFN-8(DRG)							
	Quad	TSSOP-14(PW)							
OPA314	Single	SC70-5(DCK), SOT23-5(DBV)	0.19	3	1.5	2.5	14	1.8 to 5.5	0.3
	Dual	SO-8(D), MSOP-8(DGK), DFN-8(DRG)							
	Quad	TSSOP-14(PW)							
OPA316	Single	SC70-5(DCK), SOT23-5(DBV)	0.5	10	6	2.5	11	1.8 to 5.5	0.48
	Dual	SO-8(D), MSOP-8(DGK), DFN-8(DRG)							
	Quad	TSSOP-14(PW)							
Wide-supply OPA17x family: Micro-package, microPower and RRO									
OPA170	Single	SO-8(D), SOT23-5(DBV), SOT553-5(DRL)	0.145	1.2	0.4	1.8	19	2.7 to 36	0.4
	Dual	MSOP-8(DGK), VSSOP-8(DCU), SO-8(D)							
	Quad	TSSOP-14(PW), SO-14(D)							
OPA171	Single	SO-8(D), SOT23-5(DBV), SOT553-5(DRL)	0.595	3	1.5	1.8	14	2.7 to 36	0.4
	Dual	MSOP-8(DGK), VSSOP-8(DCU), SO-8(D)							
	Quad	TSSOP-14(PW), SO-14(D)							
OPA172	Single	SC70-5(DCK), SOT23-5(DBV), SO-8(D)	1.8	10	10	1	6	4.5 to 36	0.65
	Dual	VSSOP-8(DCU), SO-8(D)							
	Quad	TSSOP-14(PW), SO-14(D)							

Surface Mount IC Prototyping Kit

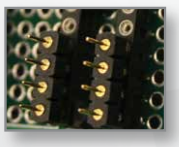
Supports D or U (SOIC-8), PW (TSSOP-8), DGK (MSOP-8), DBV (SOT23-6, SOT23-5 and SOT23-3), DCK (SC70-6 and SC70-5) and DRL (SOT563-6) packages.

Solder IC(s) to adapter PCB. Parts may be hand soldered or attached with IR or hot air reflow techniques.



Use long nose pliers to snap terminal strips into 4 position lengths.

Gently flex panel at score lines to separate boards.



Insert terminal strips into a spare DIP socket to align pins.

Position board over pins and solder the connections. Carefully remove from DIP socket. Done!

For datasheets and more information visit:
www.ti.com/ampquickstartkit

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