Capacitive Load Drive Verified Reference Design Using an Isolation Resistor

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Key Document

- TIPD128 Design File (Rev. B) (ZIP 6270 KB)
  04 Jun 2014 291 views
- Capacitive Load Drive Solution Using and Isolation Resistor (TIPD128) (Rev. B) (PDF 923 KB)
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Description

This TI Verified Design implements a variety of op amps driving capacitive loads from 100pF to 1uF using a isolation resistor. The OPA192 is highlighted due to its ability to drive large capacitive loads with small isolation resistors.

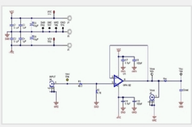
Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

Features

- Supply Voltage: 30 V (+/-15 V)
- Capacitive Loads: 100 pF, 1000 pF, 0.01 mF, 0.1 mF, 1 mF
- Features the OPA192 High Voltage, Rail-to-Rail Input/Output,Precision Op Amps, E-Trim™ Series Amplifier

Schematic/Block Diagram

Quickly understand overall system functionality.



Download Schematic

Test Data

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Design Files

Download ready-to-use system files to speed your design process. Get Viewer.

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

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TI Devices (10)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
OPA140	11MHz, Single Supply, Low Noise, Precision, Rail-to-Rail Output, JFET Amplifier	Operational Amplifier (Op Amp)	Sample & Buy	View Design Kits & Evaluation Modules
OPA170	36V, microPower, Rail-to-Rail Output, General Purpose Op Amp in	Operational Amplifier (Op	Sample & Buy	View Design Kits & Evaluation

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CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
OPA140	SOT (DBV) | 5	Download	Download
	SOIC (D) | 8	Download	Download
	VSSOP (DGK) | 8	Download	Download
OPA170	SOT (DBV) | 5	Download	Download
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	SOIC (D) | 8	Download	Download
OPA209	SOT (DBV) | 5	Download	Download
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OPA365	SOT (DBV) | 5	Download	Download
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Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

Step 2: Download the Symbol and Footprint .bxl file.

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Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
Capacitive Load Drive Solution Using and Isolation Resistor (TIPD128) (Rev. B)		PDF	923	04 Jun 2014	564	✓

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
TIPD128 Gerber		ZIP	231	09 Jan 2014	170
TIPD128 BOM		PDF	65	09 Jan 2014	140
TIPD128 Schematic		PDF	93	09 Jan 2014	246

Related Tools & Software

Software (3)

- TIPD128 Design File (Rev. B)
  (ZIP, 6270 KB) 291 views, 04 Jun 2014
- TIPD128 Test Files (Rev. A)
  (ZIP, 5759 KB) 208 views, 07 May 2014
- TIPD128 Simulation
  (ZIP, 207 KB) 176 views, 09 Jan 2014

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