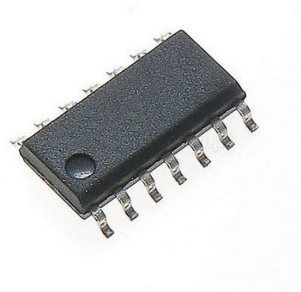
OPA615ID

Operational Transconductance Amplifier with high impedance cascode current source output

Manufacturer:	Texas Instruments, Inc
Package/Case:	SOP14
Product Type:	Amplifier ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The OPA615 is a complete subsystem for very fast and precise DC restoration, offset clamping, and low-frequency hum suppression of wideband amplifiers or buffers. Although it is designed to stabilize the performance of video signals, the circuit can also be used as a sample-and-hold amplifier, high-speed integrator, or peak detector for nanosecond pulses. The device features a wideband Operational Transconductance Amplifier (OTA) with a high-impedance cascode current source output and fast and precise sampling comparator that together set a new standard for high-speed applications. Both the OTA and the sampling comparator can be used as stand-alone circuits or combined to form a more complex signal processing stage. The self-biased, bipolar OTA can be viewed as an ideal voltage-controlled current source and is optimized for low input bias current. The sampling comparator has two identical high-impedance inputs and a current source output optimized for low output bias current and offset voltage; it can be controlled by a TTL-compatible switching stage within a few nanoseconds. The transconductance of the OTA and sampling comparator can be adjusted by an external resistor, allowing bandwidth, quiescent current, and gain trade-offs to be optimized.

The OPA615 is available in both an SO-14 surface-mount and an MSOP-10 package.

Key Features

PROPAGATION DELAY: 1.9ns

BANDWIDTH: OTA: 710MHzComparator: 730MHz

LOW INPUT BIAS CURRENT: ±1μA

SAMPLE-AND-HOLD SWITCHING TRANSIENTS: ±5mV

SAMPLE-AND-HOLD FEEDTHROUGH REJECTION: 100dB

CHARGE INJECTION: 40fC

HOLD COMMAND DELAY TIME: 2.5ns

TTL/CMOS HOLD CONTROL

APPLICATIONS
BROADCAST/HDTV EQUIPMENT

TELECOMMUNICATIONS EQUIPMENT

HIGH-SPEED DATA ACQUISITION

CAD MONITORS/CCD IMAGE PROCESSING

NANOSECOND PULSE INTEGRATOR/PEAK DETECTOR

PULSE CODE MODULATOR/DEMODULATOR

COMPLETE VIDEO DC LEVEL RESTORATION

SAMPLE-AND-HOLD AMPLIFIER

SHC615 UPGRADE

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Recommended For You

OPA445BM	OPA1611AIDR	OPA388QDBVRQ1
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
CAN	SOP8	SOT23-5

OPA2365AQDRQ1

Texas Instruments, Inc

SOP8

OPA334AIDBVR

Texas Instruments, Inc

SOT23-6

OPA2835IDGSR

Texas Instruments, Inc

MSOP10

OPA656U

Texas Instruments, Inc

SOP8

OPA360AIDCKR

Texas Instruments, Inc

SC70-6

LM111H/NOPB

Texas Instruments, Inc

CAN8

OPA353UA

Texas Instruments, Inc

SOP8

LM13700MX/NOPB

Texas Instruments, Inc

SOP16

OPA633KP

Texas Instruments, Inc

DIP8

OPA453FAKTWT

Texas Instruments, Inc

TO263-7

OPA4251UA

Texas Instruments, Inc

SOP14

LMV321M5X/NOPB

Texas Instruments, Inc

SOT23-5