
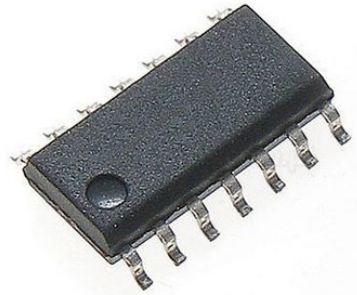


## SP Amp Single Wideband Amplifier $\pm 6V/12V$

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>
<b>Package/Case:</b>	SOP14
<b>Product Type:</b>	Amplifier ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active



Images are for reference only

[Inquiry](#)

### General Description

The VCA824 is a DC-coupled, wideband, linear-in V/V, continuously variable, voltage-controlled gain amplifier. The device provides a differential input to single-ended conversion with a high-impedance gain control input used to vary the gain down 40 dB from the nominal maximum gain set by the gain resistor (RG) and feedback resistor (RF).

The VCA824 internal architecture consists of two input buffers and an output current feedback amplifier stage integrated with a multiplier core to provide a complete variable gain amplifier (VGA) system that does not require external buffering. The maximum gain is set externally with two resistors, providing flexibility in designs. The maximum gain is intended to be set between 2 V/V and 40 V/V. Operating from  $\pm 5\text{-V}$  supplies, the gain control voltage for the VCA824 adjusts the gain linearly in V/V as the control voltage varies from 1 V to  $-1\text{ V}$ . For example, set for a maximum gain of 10 V/V, the VCA824 provides 10 V/V, at 1-V input, to 0.1 V/V at  $-1\text{-V}$  input of gain control range. The VCA824 offers excellent gain linearity. For a 20-dB maximum gain, and a gain-control input voltage varying between 0 V and 1 V, the gain does not deviate by more than  $\pm 0.3\text{-dB}$  (maximum at 25°C).

### Key Features

710-MHz Small-Signal Bandwidth ( $G = 2\text{ V/V}$ )

320 MHz, 4-VPP Bandwidth ( $G = 10\text{ V/V}$ )

0.1-dB Gain Flatness to 135 MHz

2500-V/ $\mu\text{s}$  Slew Rate

> 40-dB Gain Adjust Range

High Gain Accuracy: 20-dB  $\pm 0.3\text{-dB}$

High Output Current:  $\pm 90\text{ mA}$

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### Recommended For You

**IVC102U**

Texas Instruments, Inc

SOP14

**VCA810AID**

Texas Instruments, Inc

SOP8

**VCA810ID**

Texas Instruments, Inc

SOP8

**VCA821ID**

Texas Instruments, Inc

SOP14

**VCA2617RHBT**

Texas Instruments, Inc

QFN32

**VCA2615RGZT**

Texas Instruments, Inc

QFN

**VCA8617PAGT**

Texas Instruments, Inc

TQFP64

**TLC27M2CP**

Texas Instruments, Inc

DIP8

**INA823DT**

Texas Instruments, Inc

SOP8

**INA333AIDRGR**

Texas Instruments, Inc

SON-8

**TLV3501AIDR**

Texas Instruments, Inc

SOP8

**THS3092D**

Texas Instruments, Inc

SOP-8

**LMB11MX**

Texas Instruments, Inc

SOP8

**INA101AM**

Texas Instruments, Inc

CAN10

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