
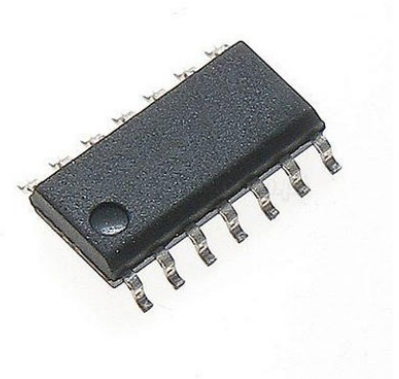


## SP Amp Variable Gain Amp Single $\pm 6V/12V$ 14-Pin SOIC Tube

<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 VCA821 device is a DC-coupled, wideband, linear in dB, continuously variable, voltage-controlled gain amplifier. It 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 VCA821 device 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 6 dB and 32 dB. Operating from  $\pm 5$ -V supplies, the gain control voltage for the VCA821 device adjusts the gain linearly in dB as the control voltage varies from 0V to +2 V. For example, set at a maximum gain of 20 dB, the VCA821 device provides 20 dB, at  $V_G = +2$  V, to less than -20 dB at  $V_G = 0$  V. The VCA821 device offers excellent gain linearity. For a 20-dB maximum gain, and a gain-control input voltage varying between +1 V and +2 V, the gain does not deviate by more than  $\pm 0.3$  dB (maximum at +25°C).

### Key Features

710-MHz Small-Signal Bandwidth ( $G = +2$  V/V)

320 MHz, 4 VPP Bandwidth ( $G = +10$  V/V)

0.1-dB Gain Flatness to 135 MHz

2500 V/ $\mu$ s Slew Rate

> 40-dB Gain Adjust Range

High Gain Accuracy: 20 dB  $\pm 0.3$  dB

High Output Current:  $\pm 90$  mA

### Recommended For You

**IVC102U**

Texas Instruments, Inc  
SOP14

**VCA810AID**

Texas Instruments, Inc  
SOP8

**VCA810ID**

Texas Instruments, Inc  
SOP8

**VCA824ID**

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

**INA141UA**

Texas Instruments, Inc  
SOP8