

**SINGLE LOW VOLTAGE RAIL-TO-RAIL OUTPUT OPERATIONAL AMPLIFIER****AZV321****Description**

The AZV321 is single low voltage (2.7-5.5V) op amp which has rail-to-rail output swing capability. The input common-mode voltage range includes ground. The chip exhibits excellent speed-power ratio, achieving 1MHz of bandwidth and 1V/ $\mu$ s of slew rate with low supply current.

The AZV321 is built with BiCMOS process. It has bipolar input and output stages for improved noise performance, low input offset and higher output current drive.

AZV321 is available in the package of SC70-5, which is approximately half the size of SOT-23-5. The small package saves space on pc boards, and enables the design of small portable electronic devices. It also allows the designer to place the device closer to the signal source to reduce noise pickup and increase signal integrity.

**Parametric Table**

Supply Voltage Range (V)		2.7 to 5.5
Supply Current ( $V_{CC}=5V$ ) ( $\mu$ A)		130
Input Offset Voltage (mV)		1.7
Large Signal Voltage Gain (dB)		100
Output Voltage Swing ( $V_{CC}=5V$ , $R_L=10K$ )	$V_{OH}$ (V)	4.99
	$V_{OL}$ (mV)	65
Output Short Circuit Current ( $V_{CC}=5V$ )	Source (mA)	60
	Sink (mA)	160
Gain Bandwidth Product ( $C_L=200pF$ ) (MHz)		1
Phase Margin (Deg)		60
Operating Temperature Range ( $^{\circ}C$ )		-40 to 85

**Features**

(For  $V_{CC}=5V$  and  $V_{EE}=0V$ , Typical unless Otherwise Noted)

- Guaranteed 2.7V to 5.5V Performance.
- No Crossover Distortion
- Gain-Bandwidth Product 1MHz
- Industrial Temperature Range:  $-40^{\circ}C$  to  $+85^{\circ}C$
- Low Supply Current: 130 $\mu$ A
- Rail-to-Rail Output Swing under 10k $\Omega$  Load:  
 $V_{OH}$  up to  $V_{CC}$  -10mV  
 $V_{OL}$  near to  $V_{EE}$  +65mV
- $V_{CM}$ : -0.2V to  $V_{CC}$ -0.8V

**Benefits**

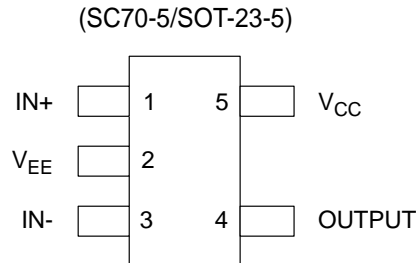
- Low Supply Voltage and Low Supply Current
- Rail to Rail Output
- Small Package
- Easy to Use
- Very Competitive Price

**Applications**

- Active Filters
- Low Power, Low Voltage Applications
- General Purpose Portable Devices
- Cellular Phone, Cordless Phone
- Battery-Powered Systems

**Additional Available Materials**

- Samples
- Preliminary Datasheet
- Reliability Report
- ESD Report

**SINGLE LOW VOLTAGE RAIL-TO-RAIL OUTPUT OPERATIONAL AMPLIFIER****AZV321****Pin Configuration****Ordering Information Example**

Package	Temperature Range	Part Number	Marking ID	Packing Type
		Lead Free	Lead Free	
SC70-5	-40 to 85°C	AZV321KSTR-E1	21	Tape & Reel
SOT-23-5	-40 to 85°C	AZV321KTR-E1	E6T	Tape & Reel

Detailed information please refer to the relevant datasheet.

**Sales Office:****USA**

30920 Huntwood Ave. Hayward, CA 94544,  
USA  
Tel : +1-510-324-2988  
Fax : +1-510-324-2788

**Taiwan**

4F, 298-1 Rui Guang Road, Nei-Hu District, Taipei,  
Taiwan  
Tel : 886-2-2656-2808  
Fax : 886-2-2656-2806

**Shanghai**

8F, B Zone, 900 Yi Shan Road, Shanghai 200233,  
China  
Tel : 86-21-6495 9539  
Fax : 86-21-6485 9673

**Shenzhen**

Room E, 5F, Noble Center, No.1006, 3rd Fuzhong Road, Futian  
District, Shenzhen 518026, China  
Tel : 86-755-8826 7951  
Fax : 86-755-8826 7865