



## CMOS Programmable Supply Current Operational Amplifiers

The TLC271 is an industry standard single channel, programmable supply current CMOS operational amplifier.

A bias selection pin allows for selection of micro-power supply current versus performance enabling the user to achieve the longest battery life in a given application

The TLC27L1 variant is a metal mask option of the TLC271, with the device programmed for the lowest current consumption.

The devices are specified for 5V and  $\pm 5V$  supplies with a maximum recommended supply voltage of 16V. Both Op-Amps have an input common mode that includes the lower power supply rail enabling single power supply operation as low as 3 Volts. The CMOS inputs enable use in high-impedance sensor applications.

The TLC271 and TLC27L1 are available in SO8 packaging. Two temperature grades are available for the parts; C grade offers 0 to 70°C operation while the I grade offers -40 to 125°C operation.



### The Diodes Advantage

- **Industry standard part number and specification**  
Economic drop in replacement for alternative parts
- **Selectable Supply current/Bandwidth**  
Bias pin allows selection between micro-power for long battery life or wide bandwidth for better ac performance
- **Offset voltage graded parts with 10mV, 5mV, and 2mV options.**
- **Operation down to 3.0V and 10  $\mu A$  supply current**  
Ideal for low power and battery powered applications



**New Product  
Announcement**  
TLC271  
TLC27L1

# CMOS Programmable Supply Current Operational Amplifiers

## The Programmability of the TLC271

One of the key features of the TLC271 is the ability to use its bias pin to select a performance level best suited for an application. The TLC27L1 is a metal option of the TLC271 that remains in the Low Bias Mode

Typical Values $T_A = 25^\circ\text{C}$ , $V_{DD} = 5\text{V}$		Mode			Units
		High bias $R_L = 10\text{k}\Omega$	Medium bias $R_L = 100\text{k}\Omega$	Low bias $R_L = 1\text{M}\Omega$	
$P_D$	Power dissipation	3.4	0.5	0.05	mW
$I_{DD}$	Supply Current	675	105	10	$\mu\text{A}$
SR	Slew rate	3.6	0.4	0.03	$\text{V}/\mu\text{s}$
$V_n$	Equivalent input noise voltage at $f=1\text{kHz}$	20	25	28	$\text{nV}/\sqrt{\text{Hz}}$
$B_1$	Unity gain bandwidth	1.7	0.5	0.09	MHz
$\phi_M$	Phase margin 20 pF load	52	50	45	degrees
$A_{VD}$	Large signal differential voltage amplification	23	170	480	$\text{V}/\text{mV}$

To find out more information:  
Op Amp overview page  
Datasheets

[www.diodes.com/catalog/operational\\_amplifiers\\_75/](http://www.diodes.com/catalog/operational_amplifiers_75/)  
[www.diodes.com/datasheets/TLC271.pdf](http://www.diodes.com/datasheets/TLC271.pdf)  
[www.diodes.com/datasheets/TLC27L1.pdf](http://www.diodes.com/datasheets/TLC27L1.pdf)

## Ordering Information

Device	Temperature	Offset Voltage	Bias Level	Package	Tape width	Reel Quantity
TLC271CS-13	0°C to 70°C	10 mV	programmable	SO-8	13 mm	2500
TLC271IS-13	-40°C to 85°C	10 mV	programmable	SO-8	13 mm	2500
TLC271ACS-13	0°C to 70°C	5mV	programmable	SO-8	13 mm	2500
TLC271AIS-13	-40°C to 85°C	5mV	programmable	SO-8	13 mm	2500
TLC271BCS-13	0°C to 70°C	2mV	programmable	SO-8	13 mm	2500
TLC271BIS-13	-40°C to 85°C	2mV	programmable	SO-8	13 mm	2500
TLC27L1CS-13	0°C to 70°C	10mV	low	SO-8	13 mm	2500
TLC27L1IS-13	-40°C to 85°C	10mV	low	SO-8	13 mm	2500
TLC27L1ACS-13	0°C to 70°C	5mV	low	SO-8	13 mm	2500
TLC27L1AIS-13	-40°C to 85°C	5mV	low	SO-8	13 mm	2500
TLC27L1BCS-13	0°C to 70°C	2mV	low	SO-8	13 mm	2500
TLC27L1BIS-13	-40°C to 85°C	2mv	low	SO-8	13 mm	2500