

# AS\_OPA1 FleX-OpAmp™

## Dual Operational Amplifiers

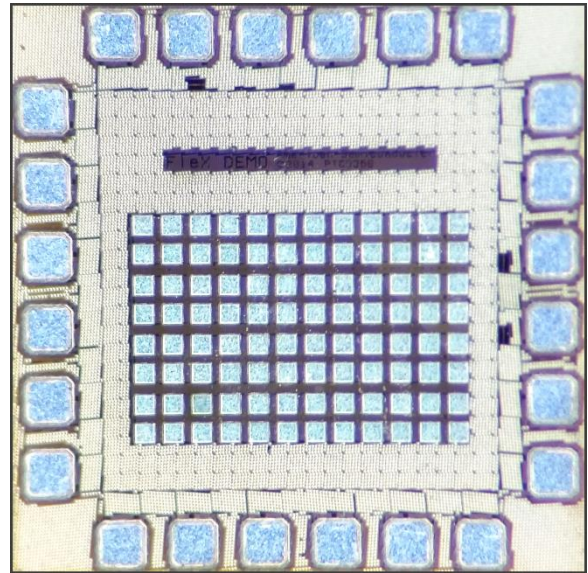
Preliminary

### Overview

The FleX-OpAmp (AS\_OPA1001.fxd) is the industry's first physically flexible operational amplifiers in an ultra-thin, flexible form factor. This FleX-OpAmp is fabricated in the TowerJazz CS18 180nm PD-SOI CMOS process and converted to a flexible form factor using the American Semiconductor FleX™ Silicon-on-Polymer process. Initial testing supports applications with 5mm radius of curvature and is not considered the limit of the device capability. Each FleX-OpAmp flexible die has two identical general purpose operational amplifiers.

### Features

Operating Voltage	2.5V
Inputs	High impedance CMOS
Gain	>60dB
Stability	Unity gain stable

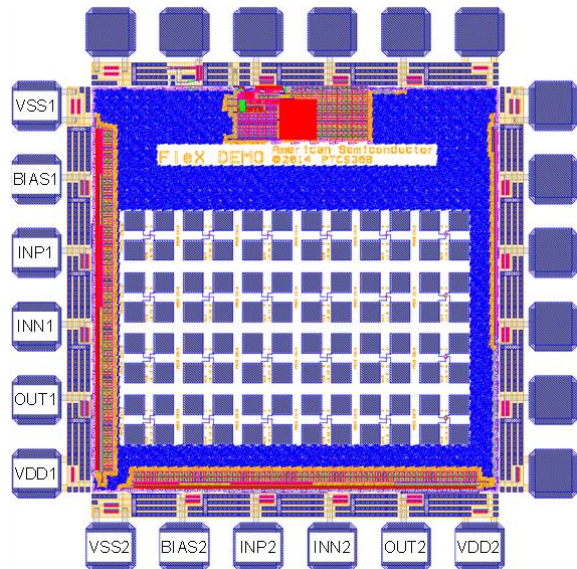


### Physical Specifications

Die Size	2.4mm X 2.4mm
Pin Count	12
Pad Opening	160um X 160um
Pad Pitch	300um
Thickness	25-30um
Flexible	Yes
Conformal	Yes
Mass	0.23mg

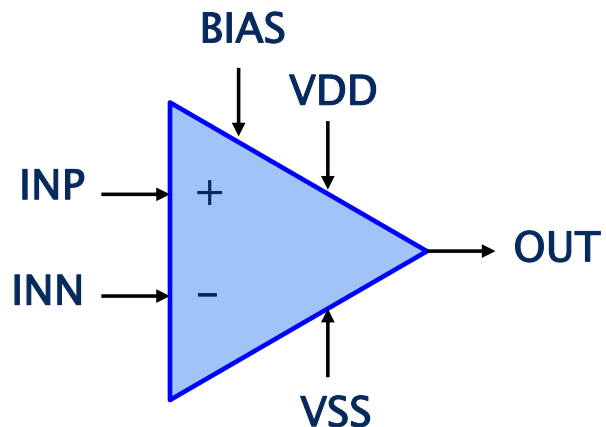
### Process Details

Technology	TowerJazz 180nm PD-SOI
Interconnect	4-level Aluminum
Flexibility	FleX Silicon-on-Polymer



### Pin List

Pin Name	Function
<i>FleX-OpAmp #1</i>	
VSS1	Ground
BIAS1	Bias Input (10uA typ)
INP1	Positive Input
INN1	Negative Input
OUT1	Output
VDD1	Power
<i>FleX-OpAmp #2</i>	
VSS2	Ground
BIAS2	Bias Input (10uA typ)
INP2	Positive Input
INN2	Negative Input
OUT2	Output
VDD2	Power



### Demonstration Samples

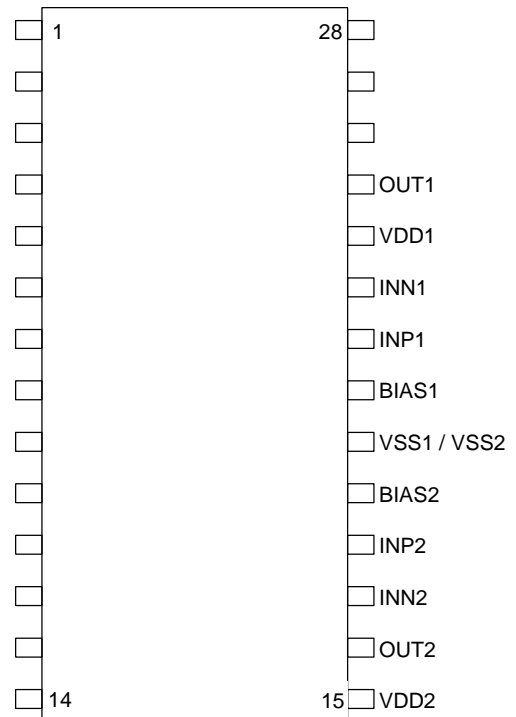
Limited AS\_OPA1001.fxd flexible die prototypes are available for customer development purposes.

### Traditional Packaged Samples

Limited AS\_OPA1001.pkg packaged samples are also available for customer development. These operational amplifiers are packaged in a 28-pin DIP ceramic package.

### Pin List for Packaged Parts

Pin #	Pin Name	Function
1-14	N/C	No connect
15	VDD2	Power
16	OUT2	Output
17	INN2	Negative Input
18	INP1	Positive Input
19	BIAS2	Bias Input (10uA typ)
20	VSS1 / VSS2	Ground
21	BIAS1	Bias Input (10uA typ)
22	INP1	Positive Input
23	INN1	Negative Input
24	OUT1	Output
25	VDD1	Power
26-28	N/C	No connect



### Contact Info

Email: sales@americansemi.com  
Phone: 208.336.2773

