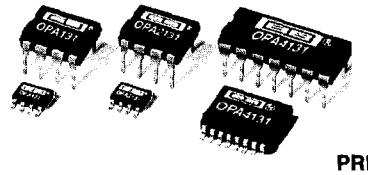
BURR-BROWN®



OPA131
OPA2131
OPA4131

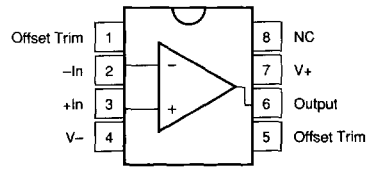
**PRELIMINARY INFORMATION
SUBJECT TO CHANGE
WITHOUT NOTICE**

General Purpose
FET-INPUT OPERATIONAL AMPLIFIERS

FEATURES

- **FET INPUT: I_B = 50pA**
- **LOW OFFSET VOLTAGE: 2mV max**
- **WIDE SUPPLY RANGE: ±4.5 to ±18V**
- **SLEW RATE: 10V/µs**
- **WIDE BANDWIDTH: 4MHz**
- **SINGLE, DUAL, QUAD VERSIONS**

OPA131



8-Pin DIP, SO-8

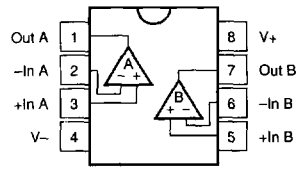
DESCRIPTION

The OPA131 series of FET-input op amps provides high performance at low cost. Single, dual and quad versions in industry-standard pinouts allow cost-effective design options.

The OPA131 series offers excellent general purpose performance, including low offset voltage, drift, and good dynamic characteristics.

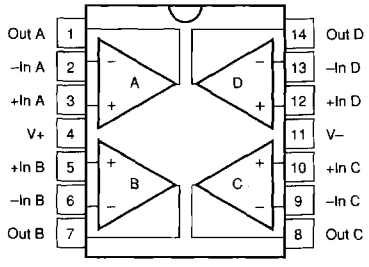
All are available in DIP and SOIC packages, specified for operation from –40°C to +85°C.

OPA2131



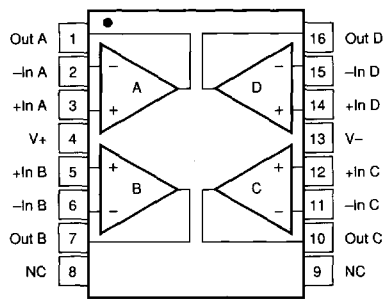
8-Pin DIP, SO-8

OPA4131



14-Pin DIP

OPA4131



SOL-16

International Airport Industrial Park • Mailing Address: PO Box 11400 • Tucson, AZ 85734 • Street Address: 6730 S. Tucson Blvd. • Tucson, AZ 85706
Tel: (602) 746-1111 • Twx: 910-952-1111 • Cable: BBRCORP • Telex: 066-6491 • FAX: (602) 889-1510 • Immediate Product Info: (800) 548-6132

PRELIMINARY SPECIFICATIONS

At T_A = +25°C, V_S = ±15V, R_L = 2kΩ unless otherwise noted.

PARAMETER	CONDITION	OPA131P, U OPA2131P, U OPA4131P, U MIN	TYP	MAX	UNITS
OFFSET VOLTAGE					
Input Offset Voltage					
OPA131 single			±0.5	±2	mV
OPA2131 dual			±0.5	±3	mV
OPA4131 quad			±0.5	±5	mV
vs Temperature	Operating Temperature Range		±2		µV/°C
vs Power Supply	V_S = ±4.5V to ±18V		50	200	µV/V
INPUT BIAS CURRENT[1]					
Input Bias Current	V_{CM} = 0V		±5	±50	pA
vs Temperature			Doubles every 10°C		
Input Offset Current	V_{CM} = 0V		±3	±50	pA
NOISE					
Input Voltage Noise					
Noise Density, f = 10Hz			25		nV/√Hz
f = 100Hz			15		nV/√Hz
f = 1kHz			12		nV/√Hz
f = 10kHz			12		nV/√Hz
Current Noise Density, f = 1kHz			0.6		fA/√Hz
INPUT VOLTAGE RANGE					
Common-mode Rejection	V_{CM} = (V+) −1 to (V−)+3V	70	80		dB
INPUT IMPEDANCE					
Differential			10^{13} || 2		Ω || pF
Common-Mode	V_{CM} = −12 to +12V		10^{13} || 6		Ω || pF
OPEN-LOOP GAIN					
Open-loop Voltage Gain	V_O = −12 to +12V	90	112		dB
FREQUENCY RESPONSE					
Gain-Bandwidth Product			4		MHz
Slew Rate			10		V/µs
Settling Time 0.1%	G=−1, 10V Step		1.5		µs
0.01%	G=−1, 10V Step		2.2		µs
Total Harmonic Distortion	1kHz		0.004		%
OUTPUT					
Voltage Output, Positive		(V+) −3	(V+) −2.5		V
Negative		(V−) +3	(V−) +2.5		V
Short-Circuit Current			±25		mA
POWER SUPPLY					
Specified Operating Voltage			±15		V
Operating Voltage Range		±4.5		±18	V
Quiescent Current (per amplifier)	I_O = 0		±1.5	±1.75	mA
TEMPERATURE RANGE					
Operating Range		−40		+85	°C
Storage		−40		+125	°C
Thermal Resistance, θ_{JA}			90		°C/W

NOTES: (1) High-speed test at T_J = 25°C.