PMI

OP-282/482

DUAL/QUAD LOW POWER, HIGH-SPEED, JFET OPERATIONAL AMPLIFIERS

Precision Monolithics Inc.

ADVANCE PRODUCT INFORMATION

FEATURES

- High Slew Rate ..... 9V/μs Typ
- Wide Bandwidth ..... 4MHz Typ
- Low Supply Current (per Amplifier) ..... 250μA Max
- Low Offset Voltage ..... 2mV Max
- Low Input Bias Current ..... 50pA Max
- Fast Settling Time (0.01%) ..... 1.5μs Typ
- Unity-Gain Stable
- Low Cost

APPLICATIONS

- Active Filters
- Fast Amplifiers
- Integrators
- Low Cost Instrumentation Amplifiers
- Battery-Powered Systems

GENERAL DESCRIPTION

The OP-282/482 series of JFET dual and quad operational amplifiers feature excellent speed at exceptionally low supply currents. Slew rate exceeds 7V/μs, typically 9V/μs, with supply current under 250μA per amplifier. These unity-gain stable amplifiers have a typical gain-bandwidth of 4MHz.

The JFET input stage of the OP-282/482 insures bias current is below 50pA. Offset voltage is under 2mV for the dual OP-282, under 3mV for the quad OP-482.

With a wide output swing, typically within 1V of each supply, low power consumption and high slew rate, the OP-282/482 are ideal for battery-powered systems or power restricted applications.

The OP-282/482 are specified over the extended industrial and military temperature ranges. Both dual and quad amplifiers are available in plastic and ceramic DIP plus SO surface mount packages.

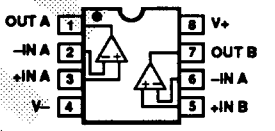
ORDERING INFORMATION†

	PACKAGE			OPERATING TEMPERATURE RANGE
	CERDIP 8-PIN	PLASTIC 8-PIN	SO 8-PIN	
8-PIN DUAL	– OP282AZ*	OP282FP –	OP282FS –	XIND MIL
14-PIN QUAD	– OP482AY*	OP482FP –	OP482FS –	XIND MIL

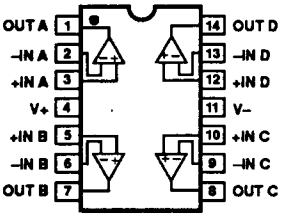
* For devices processed in total compliance to MIL-STD-883, add /883 after part number. Consult factory for 883 data sheet.

† Burn-in is available on commercial and industrial temperature range parts in CerDIP, and plastic DIP. For ordering information, see PMI's Data Book, Section 2.

PIN CONNECTIONS



OP-282
8-PIN HERMETIC DIP
(Z-Suffix)
8-PIN PLASTIC
(P-Suffix)
8-PIN SO
(S-Suffix)



OP-482
14-PIN HERMETIC DIP
(Y-Suffix)
14-PIN PLASTIC
(P-Suffix)
14-PIN SO
(S-Suffix)

This advance product information describes a product in development at the time of this printing. Final specifications may vary. Please contact local sales office or distributor for final data sheet.

ABSOLUTE MAXIMUM RATINGS (Note 1)

Supply Voltage ..... ±20V
Differential Input Voltage ..... Supply Voltage
Input Voltage ..... Supply Voltage
Output Short-Circuit Duration ..... Indefinite
Junction Temperature (T_j) ..... –65°C to +150°C
Storage Temperature Range ..... –65°C to +150°C
Operating Temperature Range
OP-282A/482A (RC, Y, Z) ..... –55°C to +125°C
OP-282F/482F(P,S) ..... –40°C to +85°C
Lead Temperature (Soldering, 60 sec) ..... +300°C

PACKAGE TYPE	Θ_{JA} (Note 2)	Θ_{JC}	UNITS
OP-282			
8-Pin Hermetic DIP (Z)	148	16	°C/W
8-Pin Plastic DIP (P)	103	43	°C/W
8-Pin SO (S)	158	43	°C/W
20-Contact LCC (RC)	98	38	°C/W
OP-482			
14-Pin Hermetic (Y)	99	12	°C/W
14-Pin Plastic (P)	76	33	°C/W
14-Pin SO (S)	115	34	°C/W
20-Contact LCC (RC)	88	33	°C/W

NOTES:
1. Absolute maximum ratings apply to both DICE and packaged parts, unless otherwise noted.
2. Θ_{JA} is specified for worst case mounting conditions, i.e., Θ_{JA} is specified for device in socket for TO, CerDIP, P-DIP, and LCC packages; Θ_{JA} is specified for device soldered to printed circuit board for SO and PLCC packages.

ELECTRICAL CHARACTERISTICS at $V_S = \pm15V$, $T_A = +25°C$, unless otherwise noted.

PARAMETER	SYMBOL	CONDITIONS	OP-282A/F OP-482A/F MIN	TYP	MAX	UNITS
Input Offset Voltage	V_{OS}	OP-282	–	1	2	mV
		OP-482	–	2	3	
Average Input Offset Voltage Drift	TCV_{OS}		–	10	–	µV/°C
Input Offset Current	I_{OS}	$V_{CM} = 0V$	–	1	50	pA
Input Bias Current	I_B	$V_{CM} = 0V$	–	3	100	pA
Large Signal Voltage Gain	A_{VO}	$R_L = 10k\Omega$, $V_O = \pm10V$	20	30	–	V/mV
Input Voltage Range	IVR	(Note 1)	+13/–11	–	–	V
Output Voltage Swing	V_O	$R_L = 10k\Omega$	±13	±14	–	V
Common-Mode Rejection	CMR	$V_{CM} = +13V, -11V$	70	86	–	dB
Power Supply Rejection Ratio	PSRR	$V_S = \pm4.5V$ to ±15V	–	25	100	µV/V
Output Short-Circuit Current	I_{SC}	$V_O = 0V$	–	±11	–	mA
Slew Rate	SR	$R_L = 10k\Omega$, $V_O = \pm10V$	7	9	–	V/µs
Gain Bandwidth Product	GBWP	$f = 100kHz$	–	4	–	MHz
Supply Current per Amplifier	I_{SY}	No Load	–	210	250	µA

NOTES:
1. Guaranteed by common-mode rejection test.