FEATURES

- *Guaranteed* 2nA Max. Input Bias Current
- *Guaranteed* 600μA Max. Supply Current
- *Guaranteed* 0.5mV Max. Offset Voltage
- *Guaranteed* 5μV/°C Max. Drift
- Wide Supply Voltage Range: ±2V to ±20V
- Interchangeable with Other Manufacturers' LH2108

APPLICATIONS

- Integrators
- Transducer Amplifiers
- Analog Memories
- Light Meters

DESCRIPTION

The LH2108A series of precision operational amplifiers is particularly well suited for high source impedance applications requiring low offset and bias currents, as well as low power dissipation. Unlike FET input amplifiers, the offset and bias currents of the LH2108A do not change significantly with temperature variations. Advanced design, processing and testing techniques make Linear's LH2108A a superior choice over previous devices.

For higher performance dual amplifiers, see the LT1024, LT1002, and LT1013 data sheets.

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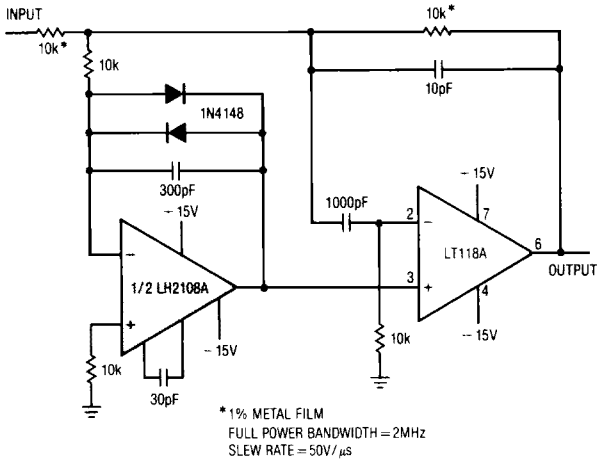
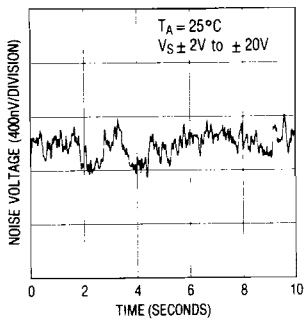
Fast Precision Inverter



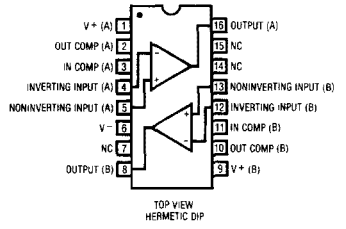
0.1Hz to 10Hz Noise



ABSOLUTE MAXIMUM RATINGS

Supply Voltage ..... ±20V
Differential Input Current (Note 1) ..... ±10mA
Input Voltage (Note 2) ..... ±15V
Output Short Circuit Duration ..... Indefinite
Operating Temperature Range ..... −55°C to 125°C
Storage Temperature Range ..... −65°C to 150°C
Lead Temperature (Soldering, 10 sec.) ..... 300°C

PACKAGE/ORDER INFORMATION



TOP VIEW
HERMETIC DIP

ORDER PART NUMBER
LH2108AD/883B
LH2108D/883B
LH2108AD
LH2108D

ELECTRICAL CHARACTERISTICS $\pm 5V \le V_S \le \pm 20V$ and $-55°C \le T_A \le 125°C$ unless otherwise noted.

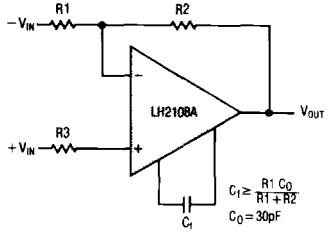
SYMBOL	PARAMETER	CONDITIONS	LH2108A MIN	LH2108A TYP	LH2108A MAX	LH2108 MIN	LH2108 TYP	LH2108 MAX	UNITS
V_{OS}	Input Offset Voltage	$T_A = 25°C$		0.3	0.5 1.0		0.7	2.0 3.0	mV mV
$\frac{\Delta V_{OS}}{\Delta Temp}$	Average Temperature Coefficient of Input Offset Voltage			1.0	5.0		3.0	15	µV/°C
I_{OS}	Input Offset Current	$T_A = 25°C$		0.05	0.2 0.4		0.05	0.2 0.4	nA nA
$\frac{\Delta I_{OS}}{\Delta Temp}$	Average Temperature Coeffcient of Input Offset Current			0.5	2.5		0.5	2.5	pA/°C
I_B	Input Bias Current	$T_A = 25°C$		0.5	2.0 3.0		0.5	2.0 3.0	nA nA
A_{VOL}	Large Signal Voltage Gain	$T_A = 25°C$, $V_S = \pm 15V$, $V_{OUT} = \pm 10V$, $R_L \ge 10k\Omega$	80 40	300		50 25	300		V/mV V/mV
CMRR	Common Mode Rejection Ratio		96	110		85	100		dB
PSRR	Power Supply Rejection Ratio		96	110		80	96		dB
	Input Voltage Range	$V_S = \pm 15V$	±13.5			±13.5			V
V_{OUT}	Output Voltage Swing	$V_S = \pm 15V$, $R_L = 10k\Omega$	±13	±14		±13	±14		V
R_{IN}	Input Resistance	$T_A = 25°C$	30	70		30	70		MΩ
I_S	Supply Current	$T_A = 25°C$ $T_A = 125°C$		0.3 0.15	0.6 0.4		0.3 0.15	0.6 0.4	mA mA

Note 1: Differential input voltages greater than 1V will cause excessive current to flow through the input protection diodes unless current limiting resistance is used.

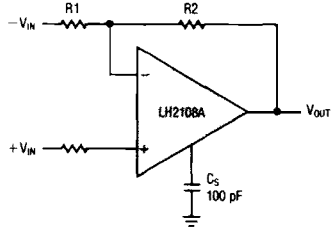
Note 2: For supply voltages less than ±15V, the maximum input voltage is equal to the supply voltage. For typical performance, see LM108A data sheet.

COMPENSATION CIRCUITS

Standard Compensation Circuit



Alternate Frequency Compensation



Feedforward Compensation