National Semiconductor

MILITARY DATA SHEET

MNLMC6061-X REV 0AL

Original Creation Date: 08/16/95
Last Update Date: 08/16/95
Last Major Revision Date: 08/16/95

PRECISION CMOS DUAL MICROPOWER OPERATIONAL AMPLIFIER

Industry Part Number

LMC6061

NS Part Numbers

LMC6061AMJ/883

Prime Die

LMC6061

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp	Description	Temp (^{O}C)
1	Static tests at	+25
2	Static tests at	+125
3	Static tests at	-55
4	Dynamic tests at	+25
5	Dynamic tests at	+125
6	Dynamic tests at	-55
7	Functional tests at	+25
8A	Functional tests at	+125
8B	Functional tests at	-55
9	Switching tests at	+25
10	Switching tests at	+125
11	Switching tests at	-55

Electrical Characteristics

DC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: V+ = 5V, Vcm = 1.5, V- = 0V, Vo = 2.5V, Rl > 1M

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage					350	uV	1
						750	uV	2, 3
Iib	Input Bias Current					25	pA	1
						100	pA	2, 3
Iio	Input Offset Current					25	pA	1
						100	pA	2, 3
CMRR	Common Mode Rejection Ratio	0V <= Vcm <= 12.0V, V+ = 15V			75		dB	1
					70		dB	2, 3
+PSRR	Positive Power Supply Rejection Ratio	5V <= V+ <= 15V, Vo = 2.5V			75		dB	1
					70		dB	2, 3
-PSRR	Negative Power Supply Rejection Ratio	-10V <= V- <= 0V, Vo = 2.5V			84		dB	1
					70		dB	2, 3
Vcm	Input Common-Mode Voltage Range	V+ = 5V and 15V for CMRR>=60 dB			V+-2.3	-0.1	V	1
					V+-2.6	0	V	2, 3
Io	Output Current	Sourcing, Vo = 0V			16		mA	1
					8		mA	2, 3
		Sinking, Vo = 5V			16		mA	1
					7		mA	2, 3
		V+ = 15V, Sourcing, Vo = 0V			15		mA	1
					9		mA	2, 3
		V+ = 15V, Sinking, Vo = 13V	1		24		mA	1
			1		7		mA	2, 3
Icc	Supply Current	V+ = +5V, Vo = 1.5V				24	uA	1
						35	uA	2, 3
		V+ = +15V, Vo = 7.5V				30	uA	1
						40	uA	2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: V+ = 5V, Vcm = 1.5, V- = 0V, Vo = 2.5V, Rl > 1M

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Avs	Large Signal Voltage Gain	Rl = 100K Ohms, Sourcing	2		400		V/mV	4
			2		200		V/mV	5, 6
		Rl = 100K Ohms, Sinking	2		180		V/mV	4
			2		70		V/mV	5, 6
		Rl = 25 K Ohms, Sourcing	2		400		V/mV	4
			2		150		V/mV	5, 6
		Rl = 25 K Ohms, Sinking	2		100		V/mV	4
			2		35		V/mV	5, 6
Vop	Output Swing	Rl = 100K Ohms to 2.5V			4.990	.010	V	4
					4.970	.030	V	5, 6
		Rl = 25K Ohms to 2.5V			4.975	.020	V	4
					4.955	.045	V	5, 6
		V+ = 15V Rl=100K Ohms to 7.5V			14.975	.025	V	1
					14.955	.050	V	2, 3
		V+ = 15V Rl=25K Ohms to 7.5V			14.900	.050	V	1
					14.800	.200	V	2, 3

AC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)
AC: V+ = 5V, Vcm = 1.5, V- = 0V, Vo = 2.5V, Rl > 1M

Sr	Slew Rate	V+ = 15V	3		20		V/mS	7
			3		8		V/mS	8A, 8B
Gbw	Gain-Bandwidth				80		KHz	7
					75		KHz	8A, 8B

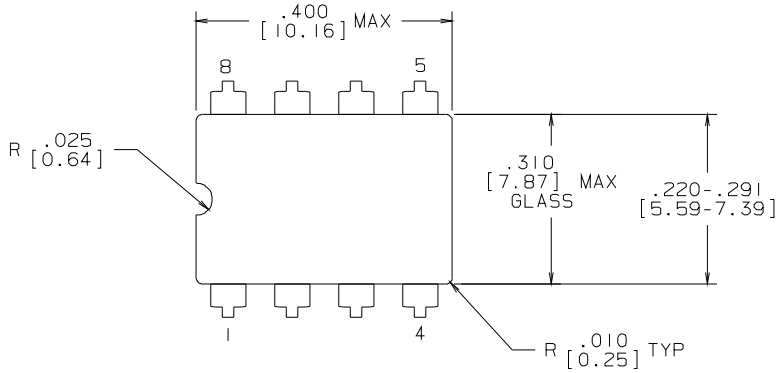
Note 1: Do not short circuit output to V+, when V+ is greater than 13V or reliability will be adversely affected.
Note 2: V+=15V,Vcm=7.5V and Rl connected to 7.5V. For Sourcing tests, 7.5V<=Vo<=11.5V. For Sinking tests, 2.5V<=Vo<=7.5V.
Note 3: Configure for voltage follower, 0 to 10V input step. For +Slew, is measured between 5.5V and 8.0V. For -Slew, is measured between 6.0V and 3.5V.

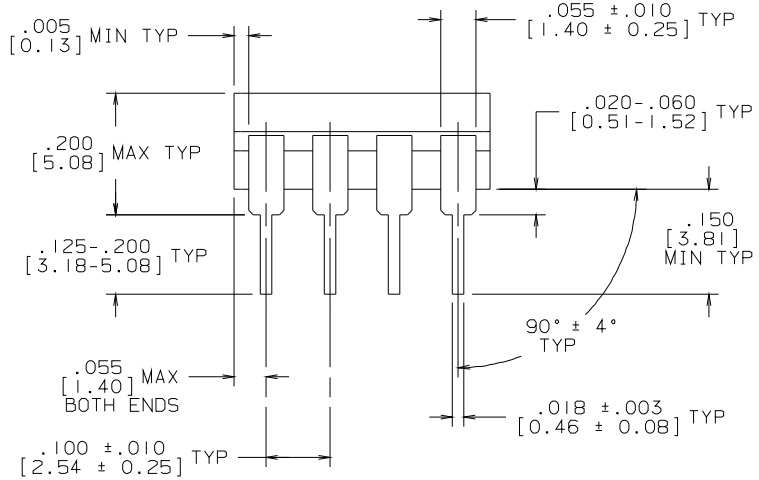
Graphics and Diagrams

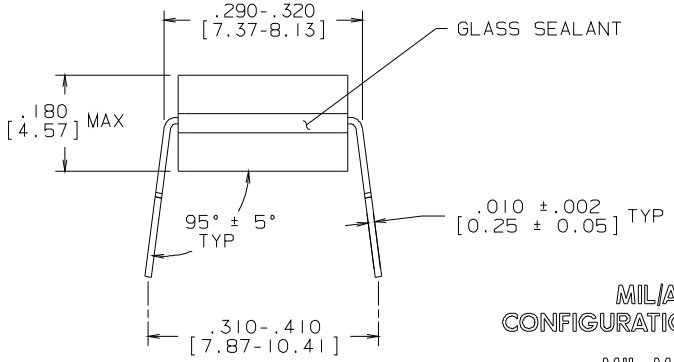
GRAPHICS#	DESCRIPTION
06275HR	(blank)
J08ARL	CERDIP (J), 8 LEAD (P/P DWG)

See attached graphics following this page.

REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
L	REVISE PER CURRENT STD; REDRAW	10002	09/21/93	TL/







MIL/AERO
CONFIGURATION CONTROL

MIL-M-38510
CONFIGURATION CONTROL

NOTES: UNLESS OTHERWISE SPECIFIED

1. LEAD FINISH TO BE 200 MICROINCHES / 5.08 MICROMETERS MINIMUM SOLDER MEASURED AT THE CREST OF THE MAJOR FLATS.
2. JEDEC REGISTRATION MO-036, VARIATION AA, DATED 04/1981.

CONTROLLING DIMENSION: INCH

APPROVALS	DATE
DRAWN T. LEQUANG	09/21/93
DFTG. CHK.	
ENGR. CHK.	
APPROVAL	

PROJECTION

INCH
[MM]

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CERDIP (J), 8 LEAD

SCALE	SIZE	DRAWING NUMBER	REV
N/A	B	MKT-J08A	L

DO NOT SCALE DRAWING | SHEET 1 OF 1