

MNLM11-X REV 0AL

 Original Creation Date: 07/25/95
 Last Update Date: 07/25/95
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OPERATIONAL AMPLIFIER
Industry Part Number

LM11

NS Part Numbers

LM11H/883

Prime Die

LM11

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp	Description	Temp (°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: $V_{CC} = \pm 20V$, $V_{CM} = 0V$, $V_S = \pm 20V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage				-0.3	0.3	mV	1
					-0.6	0.6	mV	2, 3
		$V_S = \pm 2.5V$			-0.3	0.3	mV	1
		$V_S = \pm 2.5V$			-0.6	0.6	mV	2, 3
		$V_S = \pm 15V$, $V_{CM} = -13V$			-0.3	0.3	mV	1
		$V_S = \pm 15V$, $V_{CM} = -13V$			-0.6	0.6	mV	2, 3
		$V_S = \pm 15V$, $V_{CM} = +14V$	2		-0.3	0.3	mV	1
		$V_S = \pm 15V$, $V_{CM} = +14V$	2		-0.6	0.6	mV	2, 3
Iio	Input Offset Current				-10	10	pA	1
					-150	150	pA	2, 3
		$V_S = \pm 15V$, $V_{CM} = -13V$	2		-10	10	pA	1
		$V_S = \pm 15V$, $V_{CM} = -13V$	2		-150	150	pA	2, 3
		$V_S = \pm 15V$, $V_{CM} = +14V$			-10	10	pA	1
		$V_S = \pm 15V$, $V_{CM} = +14V$			-150	150	pA	2, 3
Iib	Input Bias Current					50	pA	1
						200	pA	2, 3
		$V_S = \pm 15V$, $V_{CM} = -13V$	2			50	pA	1
		$V_S = \pm 15V$, $V_{CM} = -13V$	2			200	pA	2, 3
		$V_S = \pm 15V$, $V_{CM} = +14V$				50	pA	1
		$V_S = \pm 15V$, $V_{CM} = +14V$				200	pA	2, 3
Av	Large Signal Voltage Gain	$V_S = \pm 15V$, $I_{out} = \pm 2.2mA$, $V_{out} = \pm 12V$	1		100		V/mV	1
		$V_S = \pm 15V$, $I_{out} = \pm 2.2mA$, $V_{out} = \pm 12V$	1		50		V/mV	2, 3
		$V_S = \pm 15V$, $I_{out} = \pm 0.6mA$, $V_{out} = \pm 12V$	1		250		V/mV	1
		$V_S = \pm 15V$, $I_{out} = \pm 0.6mA$, $V_{out} = \pm 12V$	1		100		V/mV	2, 3
CMRR	Common Mode Rejection Ratio	$V_S = \pm 15V$, $-13V \leq V_{CM} \leq 14V$	2		110		dB	1
		$V_S = \pm 15V$, $-13V \leq V_{CM} \leq 14V$	2		100		dB	2, 3
PSRR	Supply Voltage Rejection Ratio	$\pm 2.5V$, $\leq V_S \leq \pm 20V$, $V_{CM} = 0V$			100		dB	1
		$\pm 2.5V$, $\leq V_S \leq \pm 20V$, $V_{CM} = 0V$			96		dB	2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)

DC: $V_{CC} = \pm 20V$, $V_{CM} = 0V$, $V_S = \pm 20V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Is	Power Supply Current				-0.6		mA	1
					-0.8		mA	2, 3
Ios+	Output Short Circuit Current	$T_A = +125\text{ }^{\circ}\text{C}$, $V_S = \pm 15V$				16	mA	2
Ios-	Output Short Circuit Current	$T_A = +125\text{ }^{\circ}\text{C}$, $V_S = \pm 15V$			-16		mA	2
Vioadj (+)	Adjustment for Input Offset Voltage	$V_S = \pm 15V$, $V_{CM} \leq 14V$			1		mV	1, 2, 3
Vioadj (-)	Adjustment for Input Offset Voltage	$V_S = \pm 15V$, $V_{CM} \leq 14V$				-1	mV	1, 2, 3
Delta Vio/Delta T	Temperature Coefficient of Input Offset Voltage	$-55\text{ }^{\circ}\text{C} \leq T_A \leq 125\text{ }^{\circ}\text{C}$, $\pm 2.5V \leq V_S \leq \pm 20V$	4			3	$\mu V/^{\circ}\text{C}$	1
Delta Iib/Delta T	Temperature Coefficient of Input Offset Voltage	$-55\text{ }^{\circ}\text{C} \leq T_A \leq 125\text{ }^{\circ}\text{C}$	4			1.5	pA/ $^{\circ}\text{C}$	1
Vcm(1)	Common Mode Input Voltage Range	$V_S = \pm 20V$	3		19		V	1, 2, 3
Vcm(2)	Common Mode Input Voltage Range	$V_S = \pm 20V$	3			-18	V	1
		$V_S = \pm 20V$	3			-17.5	V	2, 3
Vcm(3)	Common Mode Input Voltage Range	$V_S = \pm 2.5V$	3		1.5		V	1, 2, 3
Vcm(4)	Common Mode Input Voltage Range	$V_S = \pm 2.5V$	3			-0.5	V	1
		$V_S = \pm 2.5V$	3			0	V	2, 3
Vcm(5)	Common Mode Input Voltage Range	$V_S = \pm 15V$	3		14		V	1, 2, 3
Vcm(6)	Common Mode Input Voltage Range	$V_S = \pm 15V$	3			-13	V	1
		$V_S = \pm 15V$	3			12.5	V	2, 3

Note 1: $V_{out} = \pm 11.5V$ at extremes.

Note 2: $-12.5V \leq V_{CM} \leq 14V$ at extremes.

Note 3: Parameter tested go-no-go only.

Note 4: Guaranteed parameter not tested.

Graphics and Diagrams

GRAPHICS#	DESCRIPTION
088336HR	(blank)
MKT-H08CRE	(blank)

See attached graphics following this page.