

MNLM107-X REV 0BL

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OPERATIONAL AMPLIFIER
Industry Part Number

LM107

Prime Die

LM107

Controlling Document

See Features Page

NS Part Numbers

 LM107H/883 *
 LM107J-14/883***
 LM107J/883 **

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: $V_{CC} = \pm 20V$, $V_{CM} = 0V$, $R_S = 50\ \Omega$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	$V_{CM} = \pm 15V$			-2	2	mV	1
		$V_{CM} = \pm 15V$			-3	3	mV	2, 3
					-2	2	mV	1
					-3	3	mV	2, 3
		$V_{CC} = \pm 5V$			-2	2	mV	1
		$V_{CC} = \pm 5V$			-3	3	mV	2, 3
Iio	Input Offset Current	$V_{CM} = \pm 15V$			-10	10	nA	1
		$V_{CM} = \pm 15V$			-20	20	nA	2, 3
					-10	10	nA	1
					-20	20	nA	2, 3
		$V_{CC} = \pm 5V$			-10	10	nA	1
		$V_{CC} = \pm 5V$			-20	20	nA	2, 3
$\pm I_{IB}$	Input Bias Current	$V_{CM} = \pm 15V$			1	75	nA	1
$\pm I_{IB}$	Input Bias Current	$V_{CM} = \pm 15V$			1	100	nA	2, 3
$\pm I_{IB}$	Input Bias Current				1	75	nA	1
$\pm I_{IB}$	Input Bias Current				1	100	nA	2, 3
$\pm I_{IB}$	Input Bias Current	$V_{CC} = \pm 5V$			1	75	nA	1
$\pm I_{IB}$	Input Bias Current	$V_{CC} = \pm 5V$			1	100	nA	2, 3
Icc	Supply Current					3	mA	1
						2.5	mA	2
						3.5	mA	3
Ios-	Short Circuit Current				7	45	mA	1
					5	45	mA	2
					7	50	mA	3
Ios+	Short Circuit Current				-45	-7	mA	1
					-45	-5	mA	2
					-50	-7	mA	3

Electrical Characteristics

DC PARAMETERS(Continued)

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

DC: $V_{CC} = \pm 20V$, $V_{CM} = 0V$, $R_S = 50 \text{ Ohms}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
PSRR+	Supply Voltage Rejection Ratio	$+V_{CC} = 20V \text{ to } 5V$			80		dB	1, 2, 3
PSRR-	Supply Voltage Rejection Ratio	$-V_{CC} = -20V \text{ to } -5V$			80		dB	1, 2, 3
CMRR	Common Mode rejection Ratio	$-15V \leq V_{CM} \leq +15V$			80		dB	1, 2, 3
Rin	Input Resistance				1.5		MOhms	1
Vir	Input Voltage Range		1		-15	+15	V	1, 2, 3
Avs-	Large Signal Voltage Gain	$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } -12V$, $R_L = 10K \text{ Ohms}$			50		V/mV	4
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } -12V$, $R_L = 10K \text{ Ohms}$			25		V/mV	5, 6
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } -10V$, $R_L = 2K \text{ Ohms}$			50		V/mV	4
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } -10V$, $R_L = 2K \text{ Ohms}$			25		V/mV	5, 6
Avs+	Large Signal Voltage Gain	$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } 12V$, $R_L = 10K \text{ Ohms}$			50		V/mV	4
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } 12V$, $R_L = 10K \text{ Ohms}$			25		V/mV	5, 6
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } 10V$, $R_L = 2K \text{ Ohms}$			50		V/mV	4
		$V_{CC} = \pm 15V$, $V_{out} = 0 \text{ to } 10V$, $R_L = 2K \text{ Ohms}$			25		V/mV	5, 6
Vop+	Output Voltage Swing	$V_{CC} = \pm 15V$, $R_L = 10K \text{ Ohms}$			12		V	4, 5, 6
		$V_{CC} = \pm 15V$, $R_L = 2K \text{ Ohms}$			10		V	4, 5, 6
		$R_L = 10K \text{ Ohms}$			16		V	4, 5, 6
		$R_L = 2K \text{ Ohms}$			15		V	4, 5, 6
Vop-	Output Voltage Swing	$V_{CC} = \pm 15V$, $R_L = 10K \text{ Ohms}$				-12	V	4, 5, 6
		$V_{CC} = \pm 15V$, $R_L = 2K \text{ Ohms}$				-10	V	4, 5, 6
		$R_L = 10K \text{ Ohms}$				-16	V	4, 5, 6
		$R_L = 2K \text{ Ohms}$				-15	V	4, 5, 6

Electrical Characteristics

AC PARAMETERS

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

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Sr+	Slew Rate	$V_{in} = -5V$ to $+5V$, $A_v=1$, $R_L=2K$			0.2		V/ μ S	7
Sr-	Slew Rate	$V_{in} = +5V$ to $-5V$, $A_v=1$, $R_L=2K$			0.2		V/ μ S	7
Gbw	Gain Bandwidth	$V_{in} = 50mV_{rms}$, $f = 20KHz$, $R_L=2K\Omega$			250		KHz	7

Note 1: Guaranteed by CMRR.

Graphics and Diagrams

GRAPHICS#	DESCRIPTION
09413HR	(blank)
MKT-H08CRE	(blank)
MKT-J08ARL	(blank)

See attached graphics following this page.