National Semiconductor

MILITARY DATA SHEET

MNLM748-X REV 0BL

Original Creation Date: 08/07/95
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OPERATIONAL AMPLIFIER

Industry Part Number

LM748

NS Part Numbers

LM748H/883
LM748J/883

Prime Die

LM748

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: Vcc + ±15V, Vcm = 0

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	Vcm = 12V				3	mV	1
						4	mV	2, 3
		Vcm = -12V				3	mV	1
						4	mV	2, 3
						3	mV	1
						4	mV	2, 3
		Vcc = ±5V				3	mV	1
		Vcc = ±5V				4	mV	2, 3
Iio	Input Offset Current	Vcm = 12V				200	nA	1
						500	nA	2, 3
		Vcm = -12V				200	nA	1
						500	nA	2, 3
						200	nA	1
						500	nA	2, 3
		Vcc = ±5V				200	nA	1
		Vcc = ±5V				500	nA	2, 3
Iib	Input Bias Current	Vcm = 12V				500	nA	1
						1500	nA	2, 3
		Vcm = -12V				500	nA	1
						1500	nA	2, 3
						500	nA	1
						1500	nA	2, 3
		Vcc = ±5V				500	nA	1
		Vcc = ±5V				1500	nA	2, 3
PSRR+	Power Supply Rejection Ratio	+Vcc = 15V to 5V			77		dB	1, 2, 3
PSRR-	Power Supply Rejection Ratio	+Vcc = -15V to -5V			77		dB	1, 2, 3
CMRR	Common Mode Rejection Ratio	-12V ≤ Vcm ≤ +12V			70		dB	1, 2, 3
-Avs	Large Signal Voltage Gain	Rl = 2K Ohms, Vout = -10V	1		50		V/mV	1
			1		25		V/mV	2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: Vcc + ±15V, Vcm = 0

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
+AVS	Large Signal Voltage Gain	Rl = 2K Ohms, Vout = +10V	1		50		V/mV	1
			1		25		V/mV	2, 3
+Vio(adj)	Offset Null	Vcc = ±20V			4		mV	1
-Vio(adj)	Offset Null	Vcc = ±20V				-4	mV	1
+Ios	Short Circuit Current				-45	-7	mA	1
					-45	-5	mA	2
					-55	-7	mA	3
-Ios	Short Circuit Current				7	45	mA	1
					5	45	mA	2
					7	55	mA	3
Vout+	Output Voltage Swing	Rl = 10K			12		V	1, 2, 3
		Rl = 2K			10		V	1, 2, 3
Vout-	Output Voltage Swing	Rl = 2K				-10	V	1, 2, 3
		Rl = 10K				-12	V	1, 2, 3
Icc	Supply Current					2.8	mA	1
						2.25	mA	2
						3.3	mA	3

DC PARAMETERS: DRIFT VALUES

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: Vcc + ±15V, Vcm = 0. "Deltas not required on B-Level product. Deltas required for S-Level product ONLY as specified on Internal Processing Instructions (IPI)."

Vio	Input Offset Voltage				-1	1	mV	1
Iib	Input Bias Current				-50	50	nA	1

Note 1: Datalog reading in K = V/mV.