



MILITARY DATA SHEET

MNLM747-X REV 0BL

Original Creation Date: 08/07/95
Last Update Date: 12/10/96
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DUAL OPERATIONAL AMPLIFIER

Industry Part Number

LM747

NS Part Numbers

LM747H/883
LM747J/883

Prime Die

LM747

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: $V_{CC} = \pm 15V$, $V_{CM} = 0$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	$R_s = 50\ \Omega$, $V_{CM} = -12V$			-5	5	mV	1
					-6	6	mV	2, 3
		$R_s = 50\ \Omega$, $V_{CM} = 12V$			-5	5	mV	1
					-6	6	mV	2, 3
		$R_s = 50\ \Omega$			-5	5	mV	1
					-6	6	mV	2, 3
		$R_s = 50\ \Omega$, $V_{CC} = \pm 5V$			-5	5	mV	1
		$R_s = 50\ \Omega$, $V_{CC} = \pm 5V$			-6	6	mV	2, 3
Iio	Input Offset Current	$V_{CM} = -12V$			-200	200	nA	1
					-500	500	nA	2, 3
		$V_{CM} = 12V$			-200	200	nA	1
					-500	500	nA	2, 3
					-200	200	nA	1
					-500	500	nA	2, 3
		$V_{CC} = \pm 5V$			-200	200	nA	1
		$V_{CC} = \pm 5V$			-500	500	nA	2, 3
Iib+	Input Bias Current	$V_{CM} = -12V$			0	500	nA	1
					0	1500	nA	2, 3
		$V_{CM} = 12V$			0	500	nA	1
					0	1500	nA	2, 3
					0	500	nA	1
					0	1500	nA	2, 3
		$V_{CC} = \pm 5V$			0	500	nA	1
		$V_{CC} = \pm 5V$			0	1500	nA	2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

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

DC: $V_{CC} = \pm 15V$, $V_{CM} = 0$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Iib-	Input Bias Current	$V_{CM} = -12V$			0	500	nA	1
					0	1500	nA	2, 3
		$V_{CM} = 12V$			0	500	nA	1
					0	1500	nA	2, 3
					0	500	nA	1
					0	1500	nA	2, 3
		$V_{CC} = \pm 5V$			0	500	nA	1
		$V_{CC} = \pm 5V$			0	1500	nA	2, 3
Vioadj+	Input Offset Voltage Adjustment Range		4		6		mV	1, 2, 3
Vioadj-	Input Offset Voltage Adjustment Range		4			-6	mV	1, 2, 3
PSRR+	Power Supply Rejection Ratio	$R_S = 50\ \Omega$, $V_{CC} = \pm 15V$ to $\pm 5V$			77		dB	1, 2, 3
PSRR-	Power Supply Rejection Ratio	$R_S = 50\ \Omega$, $V_{CC} = \pm 15V$ to $\pm 5V$			77		dB	1, 2, 3
CMRR	Common Mode Rejection Ratio	$R_S = 50\ \Omega$, $V_{CM} = \pm 12V$			70		dB	1, 2, 3
Ios+	Output Short Circuit Current				-45	-9	mA	1, 2
					-50	-9	mA	3
Ios-	Output Short Circuit Current				9	45	mA	1, 2
					9	50	mA	3
Icc	Supply Current					5.6	mA	1
						5	mA	2
						6.6	mA	3
Vop+	Output Voltage Swing	$R_L = 10K\ \Omega$			12		V	1, 2, 3
		$R_L = 2K\ \Omega$			10		V	1, 2, 3
		$V_{CC} = \pm 20V$, $R_L = 10K\ \Omega$			16		V	1, 2, 3
		$V_{CC} = \pm 20V$, $R_L = 2K\ \Omega$			15		V	1, 2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

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

DC: $V_{cc} = \pm 15V$, $V_{cm} = 0$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vop-	Output Voltage Swing	$R_l = 10K\ \Omega$ ms				-12	V	1, 2, 3
		$R_l = 2K\ \Omega$ ms				-10	V	1, 2, 3
		$V_{cc} = \pm 20V$, $R_l = 10K\ \Omega$ ms				-16	V	1, 2, 3
		$V_{cc} = \pm 20V$, $R_l = 2K\ \Omega$ ms				-15	V	1, 2, 3
Avs+	Open Loop Voltage Gain	$V_{out} = 0$ to $+10V$, $R_l = 2K$	3		50		V/mV	1
			3		25		V/mV	2, 3
Avs-	Open Loop Voltage Gain	$V_{out} = 0$ to $-10V$, $R_l = 2K$	3		50		V/mV	1
			3		25		V/mV	2, 3
Vin	Input Voltage Range		1		± 12		V	1, 2, 3
Vopp	Output Voltage Swing	$V_{cc} = \pm 5V$	2		± 2		V	1, 2, 3

AC PARAMETERS

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

AC: $V_{cc} = \pm 15V$, $V_{cm} = 0$

Sr+	Slew Rate	$A_v = 1$, $V_{in} = -5V$ to $+5V$			0.2		V/ μ S	9
Sr-	Slew Rate	$A_v = 1$, $V_{in} = +5V$ to $-5V$			0.2		V/ μ S	9
Gbw	Gain Bandwidth	$V_{in} = 50mV$, $f = 20KHz$, $R_l = 2K\ \Omega$ ms			0.25		Mhz	9

DC PARAMETERS: DRIFT VALUES

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

DC: $V_{cc} = \pm 15V$, $V_{cm} = 0$. "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	$R_s = 50\ \Omega$ ms			-1	1	mV	1
Iib+	Input Bias Current				-50	50	nA	1
Iib-	Input Bias Current				-50	50	nA	1

Note 1: Parameter tested go-no-go only.

Note 2: Guaranteed parameter, not tested.

Note 3: Datalog reading in K = V/mV for Teradyne J-273 ONLY.

Note 4: Tested for Dips and Flats only.