

MNLM158-X REV 0BL

 Original Creation Date: 08/14/95
 Last Update Date: 12/10/96
 Last Major Revision Date: 08/14/95

LOW POWER, DUAL OPERATIONAL AMPLIFIER
Industry Part Number

LM158

Prime Die

LM158

Controlling Document

5962-8771001GA*, PA**

NS Part Numbers

 LM158H-SMD*
 LM158H/883
 LM158J/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: All voltages referenced to device ground.

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Icc	Power Supply Current	V+ = 5V, Rl = 100K, Vo = 1.4V				1.2	mA	1, 2, 3
		V+ = 30V, Rl = 100K, Vo = 1.4V				3	mA	1
						4	mA	2, 3
Voh	Output Voltage High	V+ = 30V, Rl = 2K Ohms			26		V	1, 2, 3
		V+ = 30V, Rl = 10K Ohms			27		V	1, 2, 3
Vol	Output Voltage Low	V+ = 30V, Rl = 10K Ohms				20	mV	1, 2, 3
		V+ = 30V, Isink = 1uA				20	mV	1, 2, 3
		V+ = 5V, Rl = 10K Ohms				20	mV	1, 2, 3
Isink	Output Sink Current	V+ = 15V, Vout = 200mV, Vin = 65mV			12		uA	1
		V+ = 15V, Vout = 2V, Vin = 65mV			10		mA	1
					5		mA	2, 3
Isource	Output Source Current	V+ = 15V, Vin = 65mV, Vout = 2V				-20	mA	1
						-10	mA	2, 3
Ios	Short Circuit Current	V+ = 5V, Vout = 0V			-60		mA	1
Vio	Input Offset Voltage	V+ = 30V, Vcm = 0V, Rs = 50 Ohms, Vo = 1.4V			-5	5	mV	1
					-7	7	mV	2, 3
		V+ = 30V, Vcm = 28V, Rs = 50 Ohms, Vo = 1.4V			-7	7	mV	2, 3
		V+ = 5V, Vcm = 0V, Rs = 50 Ohms, Vo = 1.4V			-5	5	mV	1
					-7	7	mV	2, 3
		V+ = 30V, Vcm = 28.5V, Rs = 50 Ohms, Vo = 1.4V			-5	5	mV	1
CMRR	Common Mode Rejection Ratio	V+ = 30V, Vin = 0V to 28.5V, Rs = 50 Ohms			70		dB	1
Iib+	Input Bias Current	V+ = 5V, Vcm = 0V			-150	-1	nA	1
					-300	-1	nA	2, 3
Iib-	Input Bias Current	V+ = 5V, Vcm = 0V			-150	-1	nA	1
					-300	-1	nA	2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

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

DC: All voltages referenced to device ground.

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Iio	Input Offset Current	V+ = 5V, Vcm = 0V			-30	30	nA	1
					-100	100	nA	2, 3
PSRR	Power Supply Rejection Ratio	V+ = 5V to 30V, Vcm = 0V			65		dB	1
Vcm	Common Mode Voltage Range	V+ = 30V	1			28.5	V	1
			1			28	V	2, 3
Vdiff	Differential Input Voltage		2			32	V	1, 2, 3
Avs	Large Signal Gain	V+ = 15V, Rl = 2K Ohms, Vo = 1V to 11V			50		V/mV	4
					25		V/mV	5, 6

DC PARAMETERS: DRIFT VALUES

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

DC: All voltages referenced to device ground. "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	V+ = 30V, Vcm = 0V, Rs = 50 Ohms, Vo = 1.4V			-1	1	mV	1
		V+ = 30V, Vcm = 28V, Rs = 50 Ohms, Vo = 1.4V			-1	1	mV	1
		V+ = 5V, Vcm = 0V, Rs = 50 Ohms, Vo = 1.4V			-1	1	mV	1
Iib+	Input Bias Current	V+ = 5V, Vcm = 0V			-30	30	nA	1
Iib-	Input Bias Current	V+ = 5V, Vcm = 0V			-30	30	nA	1

Note 1: Parameter tested go-no-go only.
Note 2: Guaranteed parameter not tested.