

MNLM612AM-X REV 0BL

 Original Creation Date: 08/02/95
 Last Update Date: 11/12/98
 Last Major Revision Date: 08/02/95

DUAL-CHANNEL COMPARATOR AND REFERENCE
Industry Part Number

LM612

NS Part Numbers

LM612AMJ/883*

Prime Die

LM612

Controlling Document

5962-9300201MPA*

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: Comparators

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

DC: $V^- = \text{Gnd} = 0\text{V}$, $V^+ = 5\text{V}$, $V_{\text{cm}} = V_{\text{out}} = V^+ / 2$, $I_r = 100\mu\text{A}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
I _{cc}	Total Supply Current V ⁺ Current	R _{load} = Infinity, 4V ≤ V ⁺ ≤ 36V				250	uA	1
						300	uA	2, 3
V _{io1}	Offset Voltage Over V ⁺ Range	4V ≤ V ⁺ ≤ 36V, R _L = 15K Ohms			-3.0	3.0	mV	1
					-6.0	6.0	mV	2, 3
V _{io2}	Offset Voltage Over V _{cm} Range	0V ≤ V _{cm} ≤ (V ⁺ - 1.4V), 1.0V ≤ V _{cm} ≤ (V ⁺ - 1.8V) over Temp., V ⁺ = 30V, R _L = 15K Ohms			-3.0	3.0	mV	1
					-6.0	6.0	mV	2, 3
I _{ib}	Input Bias Current				-25	25	nA	1
					-30	30	nA	2, 3
I _{io}	Input Offset Current				-4	4	nA	1
					-7	7	nA	2, 3
I _{sink}	Output Sink Current	V _{in} = 0V, V _{out} = 1.5V			10		mA	1
					8		mA	2, 3
		V _{in} = 1V, V _{out} = 0.4V			1.0		mA	1
					0.5		mA	2, 3
I _{leak}	Output Leakage Current	V _{in} = 1V, V _{in} = 0V, V _{out} = 36V				10	uA	1
A _v	Voltage Gain	R _L = 10K Ohms to 36V, 2V ≤ V _{out} ≤ 27V			50		V/mV	4

Electrical Characteristics

DC PARAMETERS: Voltage Reference

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

DC: $V_- = \text{Gnd} = 0\text{V}$, $V_+ = 5\text{V}$, $V_{\text{cm}} = V_{\text{out}} = V_+/2$, $I_r = 100\mu\text{A}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
V_r	Voltage Reference				1.2365	1.2515	V	1
$\Delta V_r / \Delta I_r$	Vr Change with Current	$V_r (100\mu\text{A}) - V_r (17\mu\text{A})$			-1	1	mV	1
					-1.1	1.1	mV	2, 3
		$V_r (10\text{mA}) - V_r (100\mu\text{A})$	2		-5	5	mV	1
			2		-5.5	5.5	mV	2, 3
R	Resistance	$\Delta V_r (10\text{mA to } 100\mu\text{A}) / 9.9\text{mA}$	3			0.51	Ohms	1
			3			0.56	Ohms	2, 3
		$\Delta V_r (100\mu\text{A to } 17\mu\text{A}) / 83\mu\text{A}$	3			12	Ohms	1
			3			13	Ohms	2, 3
$\Delta V_r / \Delta V_+$	Vr Change with V_+ Change	$V_r (V_+ = 5\text{V}) - V_r (V_+ = 36\text{V})$			-1.2	1.2	mV	1
					-1.3	1.3	mV	2, 3
		$V_r (V_+ = 5\text{V}) - V_r (V_+ = 3\text{V})$			-1	1	mV	1
					-1.5	1.5	mV	2, 3

Note 1: V_r is the reference output voltage, nominally 1.24V.

Note 2: Low contact resistance is required for accurate measurement.

Note 3: Guaranteed by V_r change with current.

Revision History

Rev	ECN #	Rel Date	Originator	Changes
0BL	M0001699	11/12/98	Barbara Lopez	Changed: MNLM612AM-X Rev. 0AL to MNLM612AM-X Rev. 0BL.