National Semiconductor

MICROCIRCUIT DATA SHEET

MJLM711-X REV 0BL

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DUAL DIFFERENTIAL VOLTAGE COMPARATOR

Industry Part Number

LM711

NS Part Numbers

JL711BIA

Prime Die

LM711

Controlling Document

38510/10302, AMEND.1 REV E

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 = 12V, -Vcc = -6V, Vin = Gnd

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	Rs = 50 Ohms	1		-3.5	3.5	mV	1
			1		-4.5	4.5	mV	2, 3
		Rs = 200 Ohms	1		-3.5	3.5	mV	1
			1		-4.5	4.5	mV	2, 3
Iio	Input Offset Current		1		-10	10	uA	1, 2
			1		-20	20	uA	3
Iib+	Input Bias Current		1			75	uA	1, 2
			1			150	uA	3
Iib-	Input Bias Current		1			75	uA	1, 2
			1			150	uA	3
CMRR	Common Mode Rejection Ratio	Rs = 200 Ohms, -5V $\leq$ Vin $\leq$ +5V, +7V $\leq$ +Vcc $\leq$ +17V, -2V $\leq$ -Vcc $\leq$ -12V	2		80		dB	1, 2, 3
Icc+	Supply Current	Vout = Vol (no load), Vid = -10mV			0.5	13.5	mA	1, 2, 3
Icc-	Supply Current	Vout = Vol (no load), Vid = -10mV			-6.2	-0.5	mA	1, 2, 3
Vol	Logical "0" Output Voltage	Iol = 0mA, Vid = -10mV			-1		V	1, 2, 3
Iol	Output Sink Current	Vol = 0V, Vid = -10mV			0.5		mA	1
					0.12		mA	2
					0.25		mA	3
Voh	Logical "1" Output Voltage	Ioh = -5mA, Vid = 10mV			2.5	5	V	1, 2, 3
		Ioh = 0mA, Vid = 10mV			2.5	5	V	1, 2, 3
Vo(STB)	Strobed Output Level	Vstrobe = 0.3V, Vid = -10mV			-1		V	1, 2, 3
Io(STB)	Strobe Current	Vstrobe = 100mV, Vid = -10mV			-2.5	-0.1	mA	1, 2, 3
Delta Vio/Delta T	Input Offset Voltage Temperature Coefficient	Rs = 50 Ohms, TA = +125 C	3		-10	10	uV/ C	2
		Rs = 50 Ohms, TA = -55 C	3		-10	10	uV/ C	3
Delta Iio/Delta T	Input Offset Curent Temperature Coefficient	TA = +125 C	3		-25	25	nA/ C	2
		TA = -55 C	3		-75	75	nA/ C	3

Electrical Characteristics

DC PARAMETERS(Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: +Vcc = 12V, -Vcc = -6V, Vin = Gnd

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Av+	Voltage Gain	Delta Vout = +0.5V	4		750		V/V	4
			4		500		V/V	5, 6
Av-	Voltage Gain	Delta Vout = +0.5V	5		750		V/V	4
			5		500		V/V	5, 6

AC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)
AC: +Vcc = 12V, -Vcc = -6V, Cl = 5pF, 5mV OVERDRIVE

tHTHR	Response Time, High Level To Threshold Level	100mV STEP	6			90	nS	7
tLTHR	Response Time, Low Level To Threshold Level	100mV STEP	6			60	nS	7
tSTRL	Strobe Release Time		6			15	nS	7

DC PARAMETERS: DRIFT VALUES

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: +Vcc = 12V, -Vcc = -6V, Vin = Gnd. "Delta calculations performed on JAN S and QMLV devices at group B, subgroup 5 only".

Vio	Input Offset Voltage	Rs = 50 Ohms			-0.5	0.5	mV	1
		Rs = 200 Ohms			-0.5	0.5	mV	1
Iib+	Input Bias Current				-7.5	7.5	uA	1
Iib-	Input Bias Current				-7.5	7.5	uA	1

Note 1: Vout = +1.4V at +25 C; +1V at +125 C; +1.8V at -55 C.
Note 2: Vout = +6.4V and -3.6V at +25 C; +6V and -4V at +125 C; +6.8V and -3.2V at -55 C.
Note 3: Calculated parameter.
Note 4: Vout = +1.9V at +25 C; +1.5V at +125 C; +2.3V at -55 C.
Note 5: Vout = +.9V at +25 C; +.5V at +125 C; +1.3V at -55 C.
Note 6: Bench test, refer to SP-16655.