National Semiconductor

MILITARY DATA SHEET

MNLM1596-X REV 0BL

Original Creation Date: 08/14/95
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BALANCED MODULATOR/DEMODULATOR

Industry Part Number

LM1596

NS Part Numbers

LM1596H-MIL

Prime Die

LM1596

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+ = 12V, V- = -8V, Vdiff = 0V, V(Sig+)=V(Sig-)=0V through 50 Ohms, V(Car+)=V(Car-)=6V through 50 Ohms.

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Icc+	Positive Supply Current		1, 2			3	mA	1, 2
			1, 2			7	mA	3
Icc-	Negative Supply Current		1, 2			4	mA	1, 2
			1, 2			7	mA	3
Iibs	Input Bias Current (Signal)	Iibs+ + Iibs-/2	1, 2			25	uA	1
Iibc	Input Bias Current (Carrier)	Iibc+ + Iibc-/2	1, 2			25	uA	1
			1, 2			35	uA	2
			1, 2			45	uA	3
Iiog	Input Offset Current (Gain Adjust)	Through 10K to V+	1, 2		-50	50	uA	1
Iios	Input Offset Current (Signal)		1, 2		-5	5	uA	1
Iioc	Input Offset Current (Carrier)		1, 2		-5	5	uA	1
			1, 2		-8	8	uA	2
			1, 2		-10	10	uA	3
Ioo	Output Offset Current		1, 2		-60	60	uA	1
			1, 2		-120	120	uA	2, 3
+Av	Voltage Gain	V(Car+) - V(Car-) = 0.5V, V(Sig+) - V(Sig-) = 0.15V	1, 2		2.5		V/V	4
-Av	Voltage Gain	V(Car+) - V(Car-) = -0.5V, V(Sig+) - V(Sig-) = -0.15V	1, 2		2.5		V/V	4
+Vop	Output Voltage Swing	V(Car+) - V(Car-) = 0.5V, V(Sig+) - V(Sig-) = 4.0V	1, 2		5.0		Vp-p	4
-Vop	Output Voltage Swing	V(Car+) - V(Car-) = -0.5V, V(Sig+) - V(Sig-) = -4.0V	1, 2		5.0		Vp-p	4

DC PARAMETERS: DRIFT VALUES

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: V+ = 12V, V- = -8V, Vdiff = 0V, V(Sig+)=V(Sig-)=0V through 50 Ohms, V(Car+)=V(Car-)=6V through 50 Ohms.
"Deltas not required on B-Level product. Deltas required for S-Level product ONLY as specified on Internal Processing Instructions (IPI)."

Icc+	Positive Supply Current		1, 2		-0.45	0.45	mA	1
Icc-	Negative Supply Current		1, 2		-0.6	0.6	mA	1

Note 1: V(Car+ and V(Car-) are voltage at the carrier pins.

(Continued)

Note 2: V(Sig+) and V(Sig-) are voltage at the signal pins.