



MILITARY DATA SHEET

MNLM725A-X REV 0BL

Original Creation Date: 08/04/95
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OPERATIONAL AMPLIFIER

Industry Part Number

LM725

NS Part Numbers

LM725AH/883

Prime Die

LM725

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	(No external trim)			-0.5	0.5	mV	1
					-0.7	0.7	mV	2, 3
		$R_s = 10K\ \Omega$ (No external trim)			-0.5	0.5	mV	1
					-0.7	0.7	mV	2, 3
Vio(adj)	Offset Null	$R_s = 10K\ \Omega$			+3	-3	mV	1
Iio	Input Offset Current	$R_s = 10K\ \Omega$			-5	5	nA	1
					-4	4	nA	2
					-18	18	nA	3
Iib	Input Bias Current	$R_s = \pm 10K\ \Omega$				80	nA	1
		$R_s = \pm 10K\ \Omega$				70	nA	2
		$R_s = \pm 10K\ \Omega$				180	nA	3
+Avs	Open Loop Voltage Gain	$R_s = 2K\ \Omega$, $V_{out} = 0V$ to $10V$	1		1		M	1, 2
			1		0.5		M	3
-Avs	Open Loop Voltage Gain	$R_s = 2K\ \Omega$, $V_{out} = 0V$ to $-10V$	1		1		M	1, 2
			1		0.5		M	3
CMRR	Common Mode Rejection Ratio	$+13.5V \geq V_{cm} \geq -13.5V$			120		dB	1
		$+13.5V \geq V_{cm} \geq -13.5V$			110		dB	2, 3
+PSRR	Power Supply Rejection Ratio	$\pm 20 \geq V_{cc} \geq \pm 10$			106		dB	1
		$\pm 20 \geq V_{cc} \geq \pm 10$			102		dB	2, 3
-PSRR	Power Supply Rejection Ratio	$\pm 20V \geq V_{cc} \geq \pm 10V$				5	$\mu V/V$	1
		$\pm 20V \geq V_{cc} \geq \pm 10V$				8	$\mu V/V$	2, 3
Vout	Output Voltage Swing	$V_{cc} = \pm 22V$, $V_{in} = \pm 0.5V$, $R_L = 2K\ \Omega$			+18	-18	V	1, 2, 3
		$V_{in} = \pm 0.5V$, $R_L = 2K\ \Omega$			+12	-12	V	1, 2, 3
		$V_{in} = \pm 0.5V$, $R_L = 10K\ \Omega$			+12.5	-12.5	V	1
Icc	Power Supply Current				0.5	3.5	mA	1
					0.5	3.35	mA	2
					0.5	4	mA	3

Electrical Characteristics

DC PARAMETERS(Continued)

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

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Pd	Power Dissipation					105	mW	1
						100.5	mW	2
						120	mW	3
Rin	Input Resistance		2		1.5		Mohms	1
Vin	Input Voltage Range		2		± 13.5		V	1, 2, 3
Delta Vio/Delta T	Temperature Coefficient of Input Offset Voltage	$-55^{\circ}C \leq T_A \leq 125^{\circ}C$ (without external trim)	3			2	$\mu V/C$	1
Delta Iio/Delta T	Temperature Coefficient of Input Offset Current	$-55^{\circ}C \leq T_A \leq 125^{\circ}C$	3			90	pA/C	1
Delta Vio/Delta T	Temperature Coefficient of Input Offset Current	$-55^{\circ}C \leq T_A \leq 125^{\circ}C$ (With external trim) $R_s = 50 \text{ Ohms}$	3			1	mV/C	1

DC PARAMETERS: DRIFT VALUES

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

DC: $V_{CC} = \pm 15V$, $R_s = 0$, $V_{cm} = 0$. "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	(No external trim)			-0.25	0.25	mV	1
		$R_s = 10K \text{ Ohms}$ (No external trim)			-0.25	0.25	mV	1
Iio	Input Offset Current	$R_s = 10K \text{ Ohms}$			-3	3	nA	1
Iib	Input Bias Current	$R_s = \pm 10K \text{ Ohms}$			-5	5	nA	1

Note 1: $A_{vs} = \text{Reading (M)} \times 10(6)$.

Note 2: Parameter tested go-no-go only.

Note 3: Guaranteed parameter, not tested.