

MNLM199-X REV 0BL

 Original Creation Date: 08/15/95
 Last Update Date: 12/20/96
 Last Major Revision Date: 08/15/95

PRECISION VOLTAGE REFERENCE
Industry Part Number

LM199

NS Part Numbers

 LM199H-SMD*
 LM199H/883

Prime Die

LM199

Controlling Document

5962-8856102XA*

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vr	Reverse Breakdown Voltage	$0.5\text{mA} \leq I_r \leq 10\text{mA}$			6.8	7.1	V	1, 2, 3
Delta Vr	Reverse Breakdown Voltage Change with Current	$0.5\text{mA} \leq I_r \leq 10\text{mA}$				9.0	mV	1, 2, 3
Vnrms	Zener Rms noise Voltage	$I_r = 1\text{mA}$, $V_h = 40\text{V}$, $10\text{Hz} < \text{Freq} < 10\text{KHz}$				20.0	uV	1
Ihpk	Peak Heater Current	$V_h = 40\text{V}$, 1 % Duty Cycle				200	mA	1
Il	Leakage Zener to Substrate	$V_h = 40\text{V}$				250	nA	1
Delta Vz/ Delta T	Reverse Breakdown Temperature Coefficient	$I_r = 1\text{mA}$, $-55\text{ C} \leq T_A \leq 85\text{ C}$	3			1	ppm/C	1
		$I_r = 1\text{mA}$, $85\text{ C} \leq T_A \leq 125\text{ C}$	3			15	ppm/C	1
Zr	Reverse Dynamic Impedance	$I_r = 1\text{mA}$	1			1	Ohm	1
Ih	Stabilized Heater Current	$V_h = 30\text{V}$ (tested after 5 seconds of heater turn on time)				30	mA	1
		$V_h = 30\text{V}$ (Still air)	2			14	mA	2
			2			85	mA	3
Vnpk	Zener Peak Noise Voltage	$I_r = 1\text{mA}$, $V_h = 40\text{V}$, $10\text{Hz} < \text{Freq} < 10\text{KHz}$				80	uV	1
Vf	Forward Voltage	$I_r = 1\text{mA}$			-1.6		V	1

Note 1: Guaranteed by "Reverse Breakdown Voltage Change with Current".

Note 2: Guaranteed parameter, not tested.

Note 3: Tested on Auto Drift test oven.