

MILITARY DATA SHEET

MNLM431-X REV 0AL

Original Creation Date: 08/01/95
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ADJUSTABLE PRECISION ZENER SHUNT REGULATOR

Industry Part Number

LM431

NS Part Numbers

LM431J/883

Prime Die

LM431

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
Vref	Reference Voltage	Vka = 2.5V, Ik = 10mA			2.44	2.55	V	1, 2, 3
Delta Vref/Delta Vka	Change In Vref vs Change in Vka	2.5 ≤ Vka ≤ 10V, Ik=10mA, R1=10K	1		-2.7	2.7	mV/V	1, 2, 3
		10V ≤ Vka ≤ 36V, Ik=10mA, R1=10K	1, 2		-2.0	2.0	mV/V	1, 2, 3
Iref	Reference Input Current	Ik=10mA, R1=10K, R2= Infinity				4.0	uA	1, 2, 3
Ik (min)	Minimum Cathode Current	Vka = 2.5V	3			1.0	mA	1, 2, 3
Ik (off)	Off-State Cathode Current	Vka = 36V, Vref = 0V				1.0	uA	1, 2, 3
Zka	Dynamic Output Impedance	Vka=Vref, 1mA ≤ Ik ≤ 100mA, f=1Khz				0.5	Ohms	1, 2, 3
Delta Vref	Deviation in Vref vs Temperature	-55 C ≤ TA ≤ 125C	4		-44	44	mV	2, 3
Delta Iref	Deviation in Iref vs Temperature	-55 C ≤ TA ≤ 125C	4		-3.0	3.0	uA	2, 3

Note 1: Datalog reading in mV.

Note 2: Vka=37V to guarantee Vka max; Vka=36V for Group A.

Note 3: Indirect test - force 1mA, Measure Vref. Datalog in V-limit 2.44(min) and 2.55V(max).

Note 4: Group A only.