Rochester Electronics

Datasheet

PART NUMBER

LM1536H883-ROCV

Rochester Electronics Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All re-creations are done with the approval of the Original Component Manufacturer. (OCM)

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
  - Class Q Military
  - Class V Space Level

Qualified Suppliers List of Distributors (QSLD)

- Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OCM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

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MICROCIRCUIT DATA SHEET

MDLM1536X-1 REV 0AL

Original Creation Date: 08/08/95
Last Update Date: 08/08/95
Last Major Revision Date: 08/08/95

HIGH VOLTAGE OPERATIONAL AMPLIFIER

Industry Part Number

LM1536

NS Part Numbers

LM1536H/883
LM1536J/883

Prime Die

LM1536

Controlling Document

DESC.# 78003G

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: Vs = ±28V, Rs = 50 Ohms, Vcm = 0V

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	Vcm = -24V, Rl = 5K Ohms			-5	5	mV	1
					-7	7	mV	2, 3
		Vcm = 24V, Rl = 5K Ohms			-5	5	mV	1
					-7	7	mV	2, 3
		Rl = 5K Ohms			-5	5	mV	1
					-7	7	mV	2, 3
		Vcm = -24V, Rl = 5K Ohms, Rs = 50K Ohms			-5	5	mV	1
					-7	7	mV	2, 3
		Vcm = 24V, Rl = 5K Ohms, Rs = 50K Ohms			-5	5	mV	1
					-7	7	mV	2, 3
		Vs = ±28V, Rl = 5K Ohms				5	mV	1
		Vs = ±28V, Rl = 5K Ohms				7	mV	2, 3
Iio	Input Offset Current	Vcm = -24V, Rl = 5K Ohms			-3	3	nA	1
					-7	7	nA	2, 3
		Vcm = 24V, Rl = 5K Ohms			-3	3	nA	1
					-7	7	nA	2, 3
					-3	3	nA	1
					-7	7	nA	2, 3
		Vs = ±28V, Rl = 5K Ohms				3	nA	1
		Vs = ±28V, Rl = 5K Ohms				7	nA	2, 3
Iib	Input Bias Current	Vcm = -24V, Rl = 5K Ohms			0.1	20	nA	1
					0.1	35	nA	2, 3
		Vcm = 24V, Rl = 5K Ohms			0.1	20	nA	1
					0.1	35	nA	2, 3
					0.1	20	nA	1
					0.1	35	nA	2, 3
		Vs = ±28V, Rl = 5K Ohms				20	nA	1
		Vs = ±28V, Rl = 5K Ohms				35	nA	2, 3

Electrical Characteristics

DC PARAMETERS (Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: Vs = ±28V, Rs = 50 Ohms, Vcm = 0V

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Icc	Supply Current	Rl = 5K Ohms				4	mA	1
		Vs = ±28V, Rl = 5K Ohms				4	mA	1
		Vs = ±28V, Rl = 5K Ohms				4.5	mA	2, 3
+Vo	Output Voltage Swing	Rl = 5K Ohms			22		V	1, 2, 3
		Vs = ±36V, Rl = 5K Ohms			30		V	1
-Vo	Output Voltage Swing	Rl = 5K Ohms				-22	V	1, 2, 3
		Vs = ±36V, Rl = 5K Ohms				-30	V	1
Vo	Output Voltage Swing	Vs = ±28V, Rl = 5K Ohms			±22		V	1, 2, 3
		Vs = ±36V			±30		V	1
Ios+	Output Short Circuit Current					-12	mA	1
Ios-	Output Short Circuit Current				12		mA	1
Ios	Output Short Circuit Current		2		±12		mA	1
Vir	Input Voltage Range	Rl = 5K Ohms	1		-24	24	V	1, 2, 3
		Vs = ±28V, Rl = 5K Ohms	1		-24	24	V	1, 2, 3

Electrical Characteristics

DC/AC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: Vs = ±28V, Rs = 50 Ohms, Vcm = 0V
AC: Vs = ±28V, Rs = 50 Ohms, Vcm = 0V

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
SVRR	Supply Voltage Rejection Ratio	Vs = ±15V to ±28V	3		80		dB	4, 5, 6
CMRR	Common Mode Rejection Ratio	Vcm = -24V to +24V, Rl = 5K Ohms			80		dB	4, 5, 6
-Avol	Large Signal Voltage Gain	Vo = -10V, Rl = 2K Ohms			100		V/mV	4
					50		V/mV	5, 6
+Avol	Large Signal Voltage Gain	Vo = +10V, Rl = 2K Ohms			100		V/mV	4
					50		V/mV	5, 6
Avol	Large Signal Voltage Gain	Vo = ±10V, Rl = 2K Ohms	4		100		V/mV	4
		Vo = ±10V, Rl = 2K Ohms	4		50		V/mV	5, 6
Sr+	Slew Rate	Av = 1, Vin = -10V to +10V			1.4		V/uS	4
Sr-	Slew Rate	Av = 1, Vin = +10V to -10V			1.4		V/uS	4
Sr	Slew Rate	Av = 1	2		1.4		V/uS	4

Note 1: Parameter tested go-no-go only.
Note 2: Datalog reading in K = V/mV.
Note 3: 80dB is equivalent to 100uV/V.
Note 4: Tested on LTX system.