

# LM108

## OPERATIONAL AMPLIFIER

### Industry Part Number

LM108

### Prime Die

LM108

Processing	Subgrp	Description	Temp ( °C)
MIL-STD-883, Method 5004	1	Static tests at	+25
	2	Static tests at	+125
	3	Static tests at	-55
Quality Conformance Inspection	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
MIL-STD-883, Method 5005	11	Switching tests at	-55

## Rochester Ordering Guide

*\*Most products can also be offered as RoHS compliant, designated by a -G suffix. Please contact factory for more information.*

Rochester Part Number	OCM Part Number	Package	Temperature
LM108H	LM108H	CAN-8, Metal	-55° to +125°C
LM108H/B	LM108H/883	CAN-8, Metal	-55° to +125°C
LM108JG-8/B	LM108JG-8/883	CDIP-8	-55° to +125°C
LM108J	LM108J	CDIP-14	-55° to +125°C

**For complete Rochester ordering guide, please refer to page 2.  
Please contact factory for specific package and specification availability.**

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# LM108

## Electrical Characteristics

### DC PARAMETERS

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

DC:  $V_{CC} = \pm 20V$ ,  $V_{CM} = 0V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vio	Input Offset Voltage	$V_{CM} = -15V$			-2.0	2.0	mV	1
					-3.0	3.0	mV	2, 3
		$V_{CM} = 15V$			-2.0	2.0	mV	1
					-3.0	3.0	mV	2, 3
		$V_{CC} = \pm 5V$			-2.0	2.0	mV	1
					-3.0	3.0	mV	2, 3
Iio	Input Offset Current	$V_{CM} = -15V$			-0.2	0.2	nA	1
					-0.4	0.4	nA	2, 3
					-0.2	0.2	nA	1
					-0.4	0.4	nA	2, 3
		$V_{CC} = \pm 5V$			-0.2	0.2	nA	1
					-0.4	0.4	nA	2, 3
Iib+	Input Bias Current	$V_{CM} = -15V$			-0.1	2	nA	1
					-1.0	3.0	nA	2, 3
		$V_{CM} = 15V$			-0.1	2	nA	1
					-1.0	3.0	nA	2, 3
		$V_{CC} = \pm 5V$			-0.1	2	nA	1
					-0.1	3.0	nA	2, 3

# LM108

## Electrical Characteristics

### DC PARAMETERS (Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)  
 DC:  $V_{cc} = \pm 20V$ ,  $V_{cm} = 0V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS	
Iib-	Input Bias Current	$V_{cm} = -15V$			-0.1	2	nA	1	
					-1.0	3.0	nA	2, 3	
		$V_{cm} = 15V$			-0.1	2	nA	1	
					-1.0	3.0	nA	2, 3	
		$V_{cc} = \pm 5V$				-0.1	2	nA	1
						-1.0	3.0	nA	2, 3
PSRR	Power Supply Rejection Ratio	$\pm 20V \leq V_{cc} \leq \pm 5V$			80		dB	1, 2, 3	
CMRR	Common Mode Rejection Ratio	$-15V \leq V_{cm} \leq 15V$			85		dB	1, 2, 3	
Ios+	Short Circuit Current	$V_{cc} = \pm 15V$			-30	-1.0	mA	1, 2, 3	
Ios-	Short Circuit Current	$V_{cc} = \pm 5V$			1	30	mA	1, 2, 3	
Icc	Power Supply Current					0.6	mA	1	
						0.4	mA	2	
						0.8	mA	3	
Rin	Input Resistance		2		30		MOhm	1	

# LM108

## Electrical Characteristics

### DC/AC PARAMETERS

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

DC:  $V_{cc} = \pm 20V$ ,  $V_{cm} = 0V$

AC:  $V_{cc} = \pm 20V$ ,  $V_{cm} = 0V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vin	Input Voltage Range	$V_{cc} = \pm 15V$	1		$\pm 14$		V	1, 2
		$V_{cc} = \pm 15V$	1		$\pm 13.5$		V	3
			1		$\pm 15$		V	1, 2, 3
Delta Vio/Delta T	Temperature Coefficient of Input Offset Voltage	$25C \leq TA \leq +125C$	4			15	$\mu V/C$	2
		$-55C \leq TA \leq 25C$	4			15	$\mu V/C$	3
Delta Iio/Delta T	Temperature Coefficient of Input Offset Current	$25C \leq TA \leq +125C$	4			2.5	$\mu A/C$	2
		$-55C \leq TA \leq 25C$	4			2.5	$\mu A/C$	3
Vop+	Output Voltage Swing	$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$			13		V	4, 5, 6
Vop-	Output Voltage Swing	$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$				-13	V	4, 5, 6
Avs+	Open Loop Voltage Gain	$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$ , $V_{out} = 0 \text{ to } 10V$	3		50		V/mV	4
		$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$ , $V_{out} = 0 \text{ to } 10V$	3		25		V/mV	5, 6
Avs-	Open Loop Voltage Gain	$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$ , $V_{out} = 0 \text{ to } -10V$	3		50		V/mV	4
		$V_{cc} = \pm 15V$ , $R_l = 10K \text{ Ohms}$ , $V_{out} = 0 \text{ to } -10V$	3		25		V/mV	5, 6
TR(tr)	Rise Time		2		1		$\mu S$	7
TR(os)	Overshoot		2			30	%	7

### DC PARAMETERS: DRIFT VALUES

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

DC:  $V_{cc} = \pm 20V$ ,  $V_{cm} = 0V$ . "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	$V_{cm} = 15V$			-0.5	0.5	mV	1
Iib+	Input Bias Current	$V_{cm} = 15V$			-1	1	nA	1
Iib-	Input Bias Current	$V_{cm} = 15V$			-1	1	nA	1

Note 1: Parameter tested go-no-go only.

Note 2: Guaranteed parameter not tested.

Note 3: Datalog in K = V/mV.

Note 4: Calculated parameter for Class "S" only.

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