

MJLF156-X REV 0CL

 Original Creation Date: 06/20/95
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JFET INPUT, WIDE BAND
Industry Part Number

LF156

NS Part Numbers

 JL156BGA
 JL156SGA

Prime Die

LF156

Controlling Document

38510/11402, AMEND.6 CIR.E REV A

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp	Description	Temp (°C)
	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
12	Settling time at	+25

Electrical Characteristics

DC PARAMETERS

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

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
I _{cc}	Supply Current	+V _{cc} = 15V, -V _{cc} = -15V	2			7	mA	1
			2			6	mA	2
			2			11	mA	3
V _{io}	Input Offset Voltage	+V _{cc} = 5V, -V _{cc} = -35V, V _{cm} = 15V			-5	5	mV	1
					-7	7	mV	2, 3
		+V _{cc} = 35V, -V _{cc} = -5V, V _{cm} = -15V			-5	5	mV	1
					-7	7	mV	2, 3
					-5	5	mV	1
					-7	7	mV	2, 3
-I _{ib}	Input Bias Current	+V _{cc} = 5V, -V _{cc} = -35V, V _{cm} = 15V			-0.1	3.5	nA	1
					-10	60	nA	2
		+V _{cc} = 35V, -V _{cc} = -5V, V _{cm} = -15V			-0.1	0.1	nA	1
					-10	50	nA	2
					-0.1	0.1	nA	1
					-10	50	nA	2
+I _{ib}	Input Bias Current	+V _{cc} = 5V, -V _{cc} = -35V, V _{cm} = 15V			-0.1	3.5	nA	1
					-10	60	nA	2
		+V _{cc} = 35V, -V _{cc} = -5V, V _{cm} = -15V			-0.1	0.1	nA	1
					-10	50	nA	2
					-0.1	0.1	nA	1
					-10	50	nA	2
+I _{io}	Input Offset Current	+V _{cc} = 5V, -V _{cc} = -35V, V _{cm} = 15V			-0.1	3.5	nA	1
					-10	60	nA	2
		+V _{cc} = 35V, -V _{cc} = -5V, V _{cm} = -15V			-0.1	0.1	nA	1
					-10	50	nA	2
					-0.1	0.1	nA	1
					-10	50	nA	2
+PSRR	Power Supply Rejection Ratio	+V _{cc} = 10V, -V _{cc} = -20V			85		dB	1, 2, 3

Electrical Characteristics

DC PARAMETERS(Continued)

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

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

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
-PSRR	Power Supply Rejection Ratio	$+V_{CC} = 20V$, $-V_{CC} = -10V$			85		dB	1, 2, 3
CMR	Input Voltage Common Mode Rejection	$V_{CM} = -15V$ to $15V$			85		dB	1, 2, 3
Vio ADJ(+)	Adjustment for Input Offset Voltage				8		mV	1, 2, 3
Vio ADJ(-)	Adjustment for Input Offset Voltage					-8	mV	1, 2, 3
Ios(+)	Output Short Circuit Current (For Positive Output)	$+V_{CC} = 15V$, $-V_{CC} = -15V$, $t \leq 25mS$			-50		mA	1, 2, 3
Ios(-)	Output Short Circuit Current (For Negative Output)	$+V_{CC} = 15V$, $-V_{CC} = -15V$, $t \leq 25mS$				50	mA	1, 2, 3
Delta Vio/Delta T	Temperature Coefficient of Input Offset Voltage	$25\text{ }^{\circ}\text{C} \leq T_A \leq +125\text{ }^{\circ}\text{C}$	4		-30	30	$\mu\text{V}/^{\circ}\text{C}$	2
		$25\text{ }^{\circ}\text{C} \leq T_A \leq -55\text{ }^{\circ}\text{C}$	4		-30	30	$\mu\text{V}/^{\circ}\text{C}$	3
-Avs	Open Loop Voltage Gain (Single Ended)	$V_O = -15V$, $R_L = 2K\text{ Ohms}$	1		50		V/mV	4
			1		25		V/mV	5, 6
+Avs	Open Loop Voltage Gain (Single Ended)	$V_O = +15V$, $R_L = 2K\text{ Ohms}$	1		50		V/mV	4
			1		25		V/mV	5, 6
Avs	Open Loop Voltage Gain (Single Ended)	$V_{CC} = \pm 5V$, $V_O = \pm 2V$, $R_L = 2K\text{ Ohms}$	1		10		V/mV	4, 5, 6
-Vop	Output Voltage Swing	$V_{CM} = 20V$, $R_L = 10K\text{ Ohms}$				-16	V	4, 5, 6
		$V_{CM} = 20V$, $R_L = 2K\text{ Ohms}$				-15	V	4, 5, 6
+Vop	Output Voltage Swing	$V_{CM} = -20V$, $R_L = 10K\text{ Ohms}$			16		V	4, 5, 6
		$V_{CM} = -20V$, $R_L = 2K\text{ Ohms}$			15		V	4, 5, 6

Electrical Characteristics

AC PARAMETERS

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

AC: $V_{CC} \pm 15V$, $V_{CM} = 0$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Sr-	Slew Rate Fall	$V_{in} = 5V$ to $-5V$, $A_v = 1$			7.5		V/ μ S	7
					5		V/ μ S	8A, 8B
Sr+	Slew Rate Fall	$V_{in} = -5V$ to $5V$, $A_v = 1$			7.5		V/ μ S	7
					5		V/ μ S	8A, 8B
TR(tr)	Transient Response Rise Time	$R_L = 2K \Omega$ ms, $C_L = 100pF$, $V_{in} = 50mV$, $A_v = 1$	3			100	nS	7, 8A, 8B
TR(os)	Transient Response Overshoot	$R_L = 2K \Omega$ ms, $C_L = 100pF$, $V_{in} = 50mV$, $A_v = 1$	3			40	%	7, 8A, 8B
NI(BB)	Noise Broad Band	Bandwidth = 5KHz, $V_{CC} = \pm 20V$	3			10	μV_{rms}	7
NI(PC)	Noise Popcorn	Bandwidth = 5KHz, $V_{CC} = \pm 20V$	3			40	μV_{pk}	7
ts(+)	Settling Time	$A_v = -1$	3			1500	nS	12
ts(-)	Settling Time	$A_v = -1$	3			1500	nS	12

DC PARAMETERS: DRIFT VALUES

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

DC: $V_{CC} = \pm 20V$, $V_{CM} = 0$. "Delta calculations performed on JAN S and QMLV devices at group B, subgroup 5 only".

Vio	Input Offset Voltage				-1	1	mV	1
-Iib	Input Bias Current				-0.05	0.05	nA	1
+Iib	Input Bias Current				-0.05	0.05	nA	1

Note 1: Datalog Reading in K = V/mV.

Note 2: Limit at +125 C is not to be changed unless approved by Product Engineer Manager.

Note 3: Bench test.

Note 4: Calculated parameter.

Graphics and Diagrams

GRAPHICS#	DESCRIPTION
05094HR	(blank)
H08CRE	(blank)

See attached graphics following this page.

Revision History

Rev	ECN #	Rel Date	Originator	Changes
0CL	M0001717	09/03/97	Barbara Lopez	Changed: MJLF156-X Rev. 0BL to MJLF156-X Rev. 0CL. Added reference to Subgroup 12 on Main Table.