

DESCRIPTION

The LT1223M/883 is a 100MHz current feedback amplifier with very good DC characteristics. The LT1223's high slew rate (1000V/ μ s), wide supply range (\pm 15V), and large output drive (\pm 15mA) make it ideal for driving analog signals over double-terminated cables. The current feedback amplifier has high gain bandwidth at high gains, unlike conventional op amps.

The LT1223M/883 comes in the industry-standard pinout and can upgrade the performance of many older products.

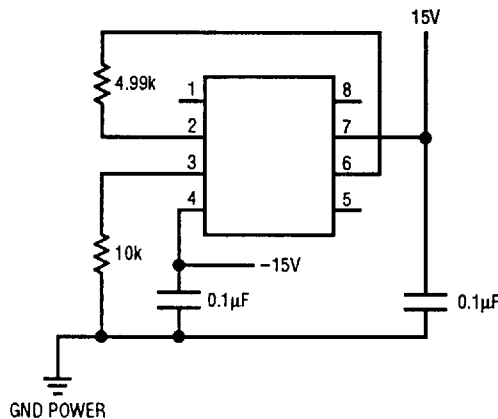
The LT1223M/883 is manufactured on Linear Technology's proprietary complementary bipolar process.

The device is processed to the requirements of MIL-STD-883 Class B to yield circuits usable in precision military applications.

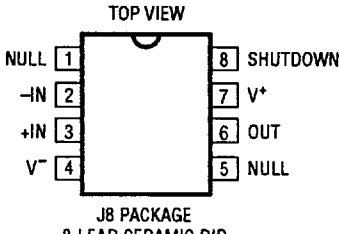
ABSOLUTE MAXIMUM RATINGS

Supply Voltage	\pm 18V
Differential Input Voltage	\pm 5V
Input Voltage	Equal to Supply Voltage
Output Short-Circuit Duration (Note 1)	Continuous
Operating Temperature Range	-55°C to 125°C
Storage Temperature Range	-65°C to 150°C
Junction Temperature	175°C
Lead Temperature (Soldering, 10 sec.)	300°C

BURN-IN CIRCUIT



PACKAGE/ORDER INFORMATION

	ORDER PART NUMBER
	LT1223MJ8/883
	PART MARKING†
	LT1223MJ8/883C

† The suffix letter "C" of the part mark indicates compliance per MIL-STD-883, para 1.2.1.1.

TABLE 1: ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	$T_A = 25^\circ\text{C}$			SUB-GROUP	$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			SUB-GROUP	UNITS
			MIN	TYP	MAX		MIN	TYP	MAX		
V_{OS}	Input Offset Voltage	$V_{CM} = 0V$		± 1	± 3	1		± 1	± 5	2,3	mV
I_{IN+}	Noninverting Input Current	$V_{CM} = 0V$		± 1	± 3	1		± 1	± 5	2,3	μA
I_{IN-}	Inverting Input Current	$V_{CM} = 0V$		± 1	± 3	1		± 1	± 10	2,3	μA
R_{IN}	Input Resistance	$V_{IN} = \pm 10V$	1	10			1	10		2,3	$\text{M}\Omega$
	Input Voltage Range		± 10	± 12		1	± 10	± 12		2,3	V
CMRR	Common-Mode Rejection Ratio	$V_{CM} = \pm 10V$	56	63		1	56	63		2,3	dB
	Inverting Input Current Common-Mode Rejection	$V_{CM} = \pm 10V$		30	100	1		30	100	2,3	nA/V
PSRR	Power Supply Rejection Ratio	$V_S = \pm 4.5V$ to $\pm 18V$ $V_S = \pm 4.5V$ to $\pm 15V$	68	80		1	68	80		2,3	dB
	Noninverting Input Current Power Supply Rejection	$V_S = \pm 4.5V$ to $\pm 18V$ $V_S = \pm 4.5V$ to $\pm 15V$		12	100	1		12	200	2,3	nA/V
	Inverting Input Current Power Supply Rejection	$V_S = \pm 4.5V$ to $\pm 18V$ $V_S = \pm 4.5V$ to $\pm 15V$		60	500	1		60	500	2,3	nA/V
A_V	Large-Signal Voltage Gain	$R_L = 400\Omega$, $V_{OUT} = \pm 10V$	70	89		4	70	89		5,6	dB
R_{OL}	Transresistance, $\Delta V_{OUT}/\Delta I_{IN-}$	$R_L = 400\Omega$, $V_{OUT} = \pm 10V$	1.5	5		1	1.5	5		5,6	$\text{M}\Omega$
V_{OUT}	Maximum Output Voltage Swing	$R_L = 200\Omega$	± 10	± 12		4	± 7	± 12		5,6	V
I_{OUT}	Maximum Output Current	$R_L = 200\Omega$	50	60		1	35	60		2,3	mA
SR	Slew Rate	$R_F = 1.5k$, $R_G = 1.5k$ (Note 2)	800	1300		4					V/ μs
I_S	Supply Current	$V_{IN} = 0V$		6	10	1		6	10	2,3	mA
	Supply Current, Shutdown	Pin 8 Current = $200\mu\text{A}$		2	4	1		2	4	2,3	mA

Note 1: A heat sink may be required.

Note 2: Noninverting operation, $V_{OUT} = \pm 10V$, measured at $\pm 5V$.

TABLE 2: ELECTRICAL TEST REQUIREMENTS

MIL-STD-883 TEST REQUIREMENTS	SUBGROUP
Final Electrical Test Requirements (Method 5004)	1*, 2,3,4
Group A Test Requirements (Method 5005)	1,2,3,4
Group C and D End Point Electrical Parameters (Method 5005)	1

* PDA Applies to subgroup 1. See PDA Test Notes.

PDA Test Notes

The PDA is specified as 5% based on failures from group A, subgroup 1, tests after cooldown as the final electrical test in accordance with method 5004 of MIL-STD-883 Class B. The verified failures of group A, subgroup 1, after burn-in divided by the total number of devices submitted for burn-in in that lot shall be used to determine the percent for the lot.

Linear Technology Corporation reserves the right to test to tighter limits than those given.