



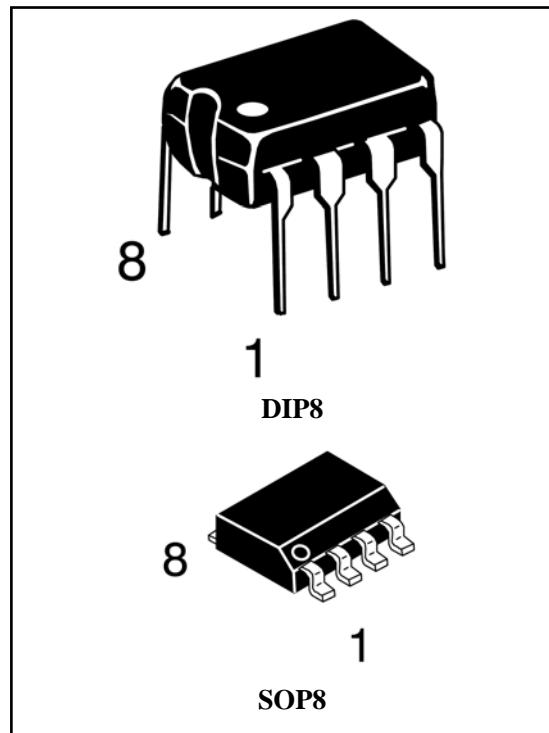
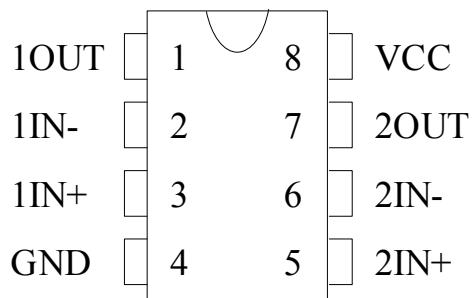
低功耗双运算放大器

概述：

LM258 是由两个独立的高增益运算放大器组成。可以是单电源工作，也可以是双电源工作，电源的功耗电流与电源电压大小无关。应用范围包括音频放大器、工业控制、DC 增益部件和所有常规运算放大电路。

采用 DIP8 或 SOP8 封装形式。

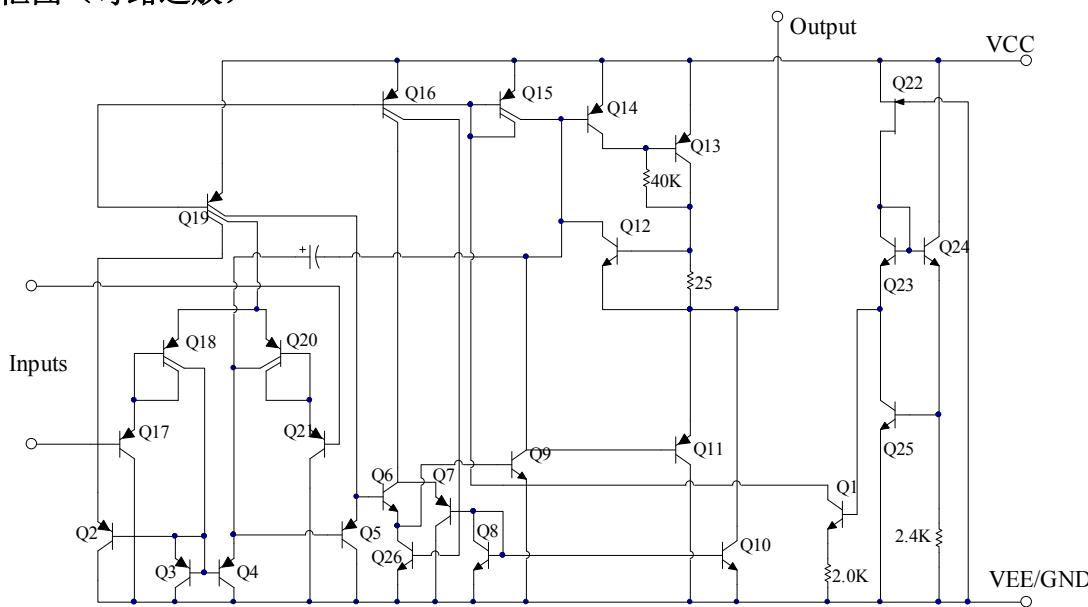
管脚排列图



主要特点：

- ✧ 可单电源或双电源工作。
- ✧ 包含两个运算放大器。
- ✧ 逻辑电路匹配。
- ✧ 功耗小。
- ✧ 频率范围宽。

功能框图（每路运放）





极限值 (绝对最大额定值, 若无其它规定, Tamb=25°C)

参数名称		数值	单位
电源电压		32 或 ±16	V
差分输入电压		32	V
输入电压		-0.3 ~ VCC	V
功耗(注 1)	DIP 封装	830	mW
	SOP 封装	530	
输出端对地短路电流 (每路放大器) (V≤15V、Ta=25°C)		持续	
输入电流 (VIN<-0.3V)		50	mA
最大工作结温		150	°C
工作环境温度		-25~ 85	°C
贮存温度		-65 ~ 150	°C

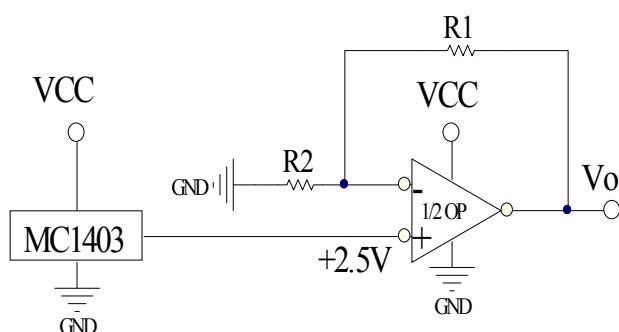
注 1: 不能超过最大结温。

电特性 (若无其它规定, Vcc=5.0V)

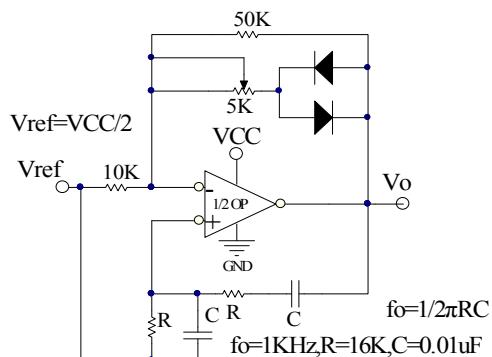
电参数	测试条件	规范值			单位
		最小	典型	最大	
输入失调电压	Ta=25°C		±2	±5	mV
输入偏置电流	Ta=25°C, IIN(+)或 IIN(-), VCM=0V		±45	±150	nA
输入失调电流	Ta=25°C, IIN(+) - IIN(-), VCM=0V		±3	±50	nA
输入共模电压范围	Ta=25°C, V ⁺ =30V	0		Vcc -1.5	V
电源电流	RL=∞在所有运算放大器上	Vcc =30V	1	2	mA
		Vcc =5V	0.5	1.2	mA
大信号电压增益	Vcc =15V, Ta=25°C, RL≥2kΩ (对于 Vo=1~11V)	25	100		V/mV
共模抑制比	DC, Ta=25°C, VCM=0~Vcc-1.5V	70	90		dB
电源抑制比	DC, Ta=25°C, Vcc =5~30V	65	100		dB
输出源电流	VIN(+)=1V,VIN(-)=0V,Vcc=15V,Vo=2V,Ta=25°C	20	40		mA
输出吸电流	VIN(-)=1V,VIN(+)=0V,Vcc=15V,Vo=2V,Ta=25°C	10	15		mA
	VIN(-)=1V,VIN(+)=0V,Vcc=15V,Vo=200mV, Ta=25°C	12	50		μA
对地短路电流	Vcc=15V, Ta=25°C		40	60	mA
输出电压摆幅	Voh	Vcc=30V	RL=2kΩ	26	V
		Vcc=30V	RL=10kΩ	27	V
	VOL	Vcc=5V, RL=10kΩ		5	20



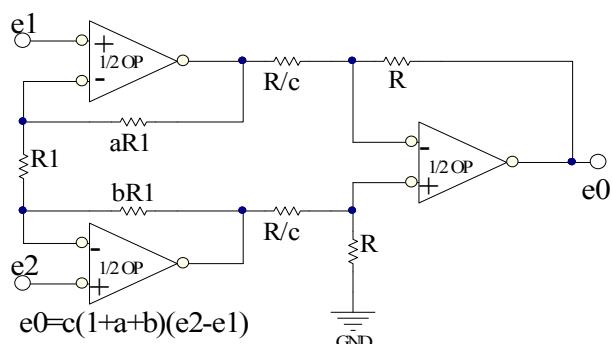
典型应用



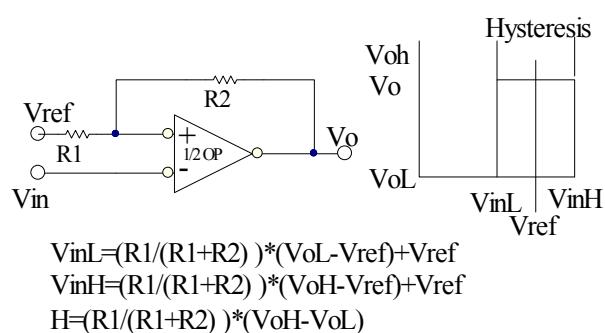
电压基准, $V_o = 2.5V \cdot (1 + R_1/R_2)$



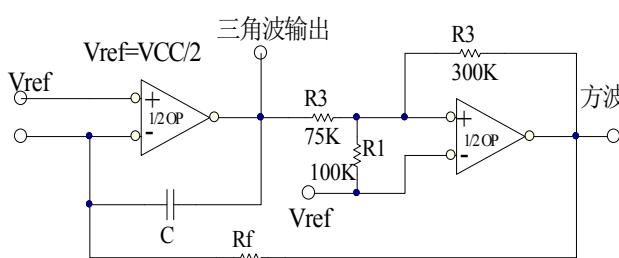
文氏桥振荡器



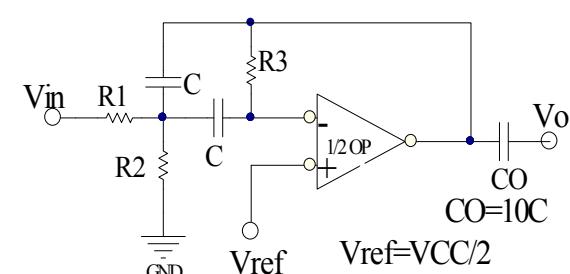
高阻抗差动放大器



迟滞比较器

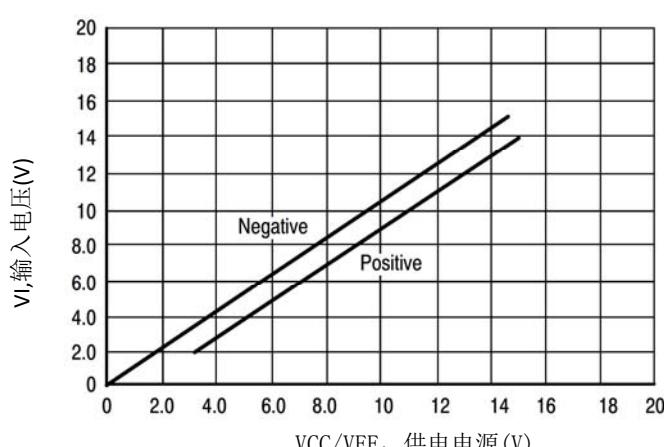


函数信号发生器

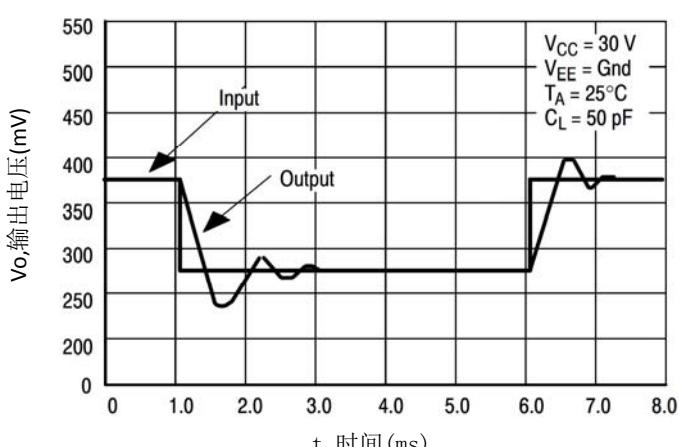


$f_0 = \text{center frequency}$ 多反馈带通滤波器

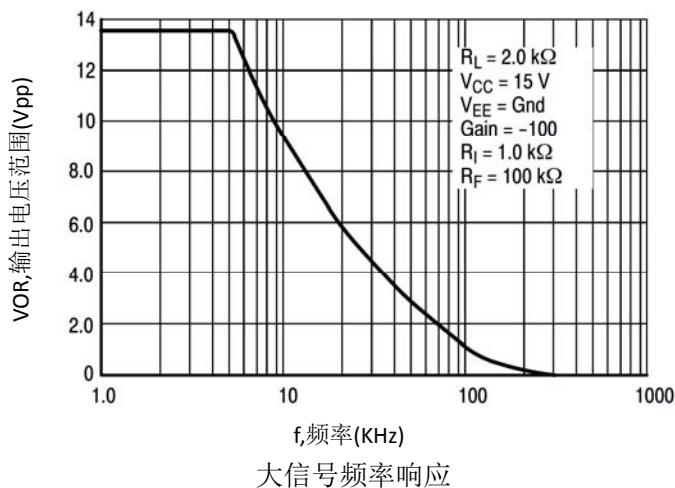
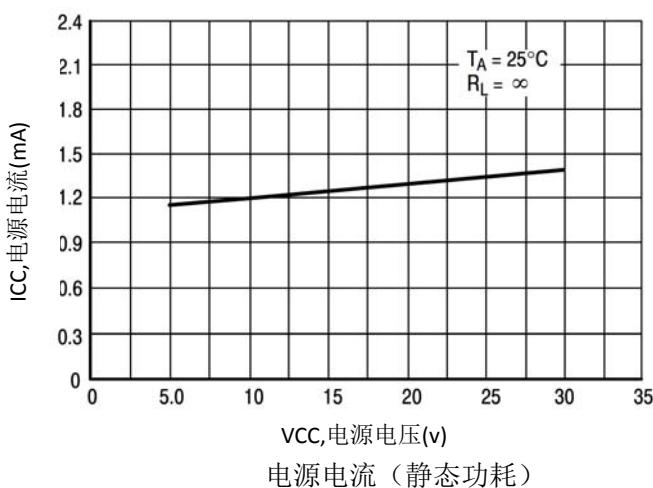
典型特性曲线



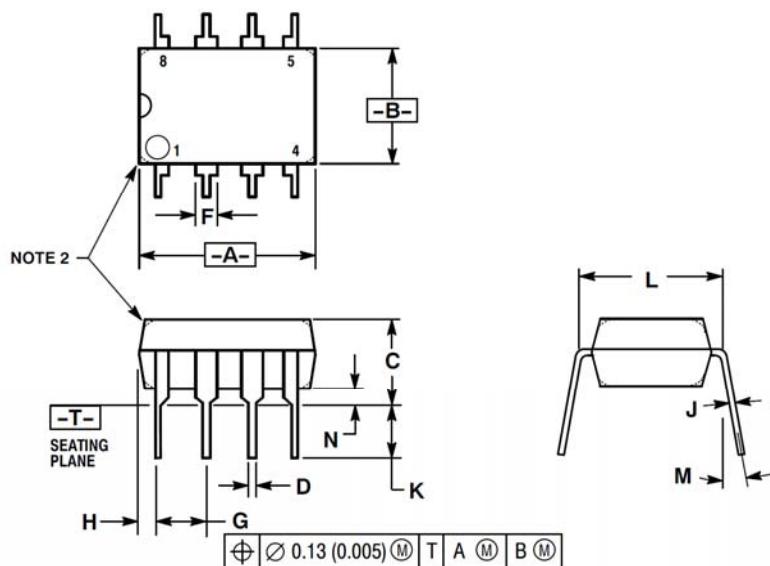
输入电压范围



小信号电压跟随器脉冲响应（同向）



封装信息:

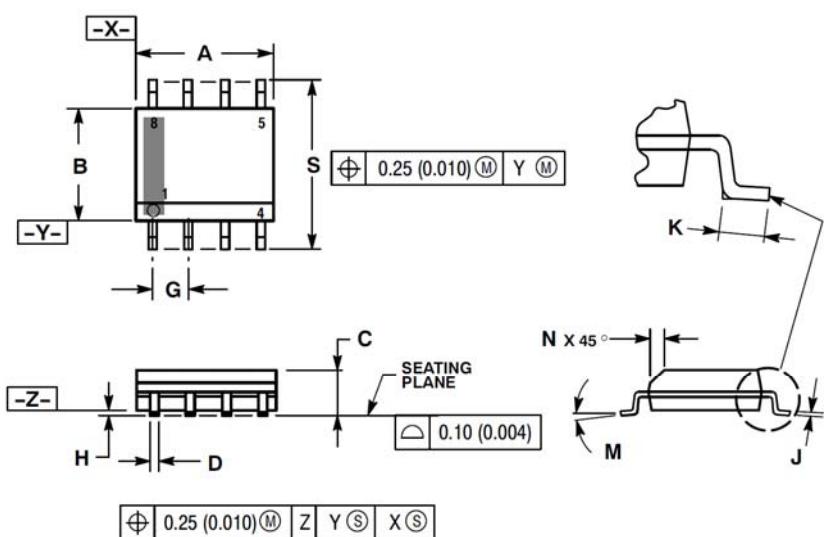


NOTES:

1. DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
2. PACKAGE CONTOUR OPTIONAL (ROUND OR SQUARE CORNERS).
3. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.40	10.16	0.370	0.400
B	6.10	6.60	0.240	0.260
C	3.94	4.45	0.155	0.175
D	0.38	0.51	0.015	0.020
F	1.02	1.78	0.040	0.070
G	2.54 BSC		0.100 BSC	
H	0.76	1.27	0.030	0.050
J	0.20	0.30	0.008	0.012
K	2.92	3.43	0.115	0.135
L	7.62 BSC		0.300 BSC	
M	---	10°	---	10°
N	0.76	1.01	0.030	0.040

DIP8



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. 751-01 THRU 751-06 ARE OBSOLETE. NEW STANDARD IS 751-07.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
E	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0 °	8 °	0 °	8 °
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

SOP8