



概述

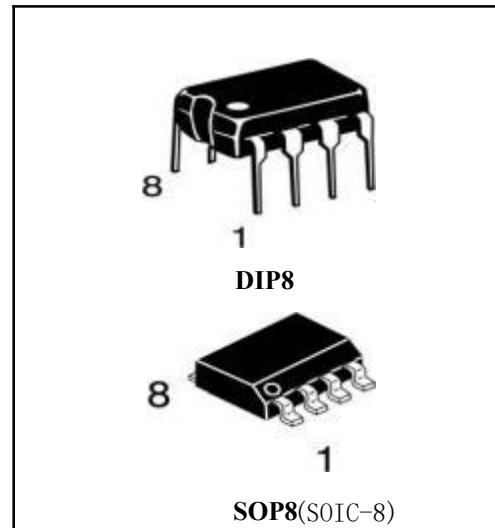
LM258是由两个独立的高增益运算放大器组成。可以是单电源工作，也可以是双电源工作，电源的功耗电流与电源电压大小无关。应用范围包括音频放大器、工业控制、DC增益部件和所有常规运算放大电路。

采用 DIP8 和 SOP8 封装形式。

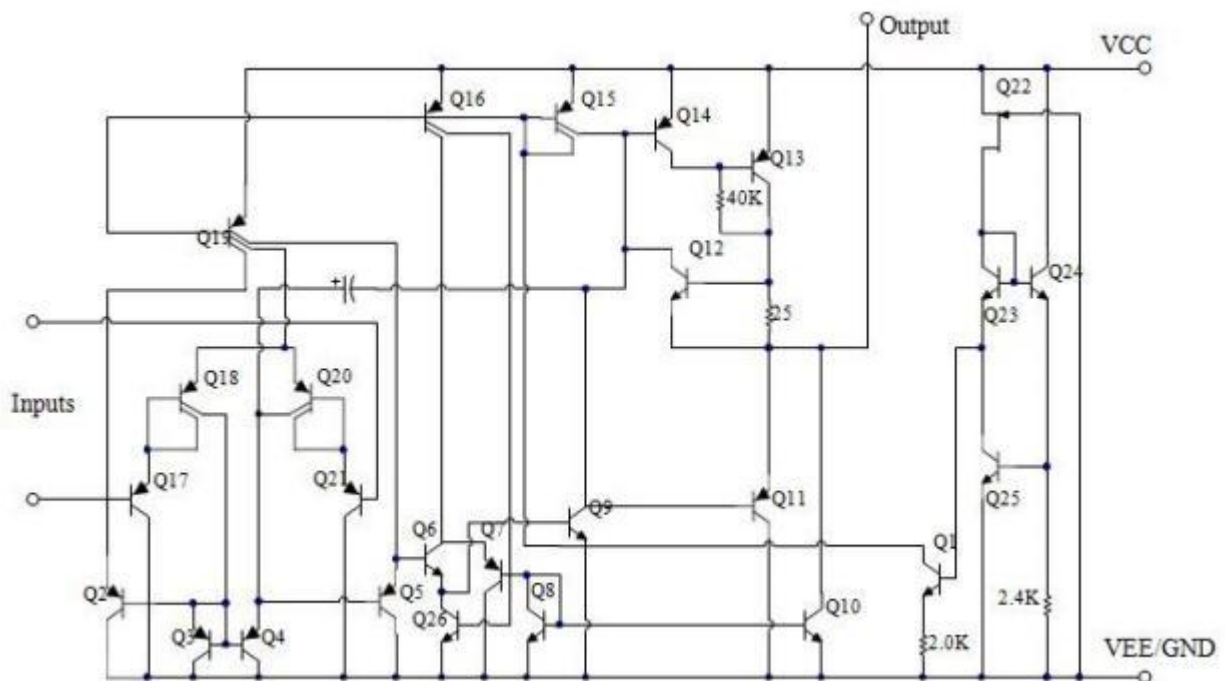
主要特点

- 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

封装外形图



功能框图（每路运放）





管脚说明

管脚序号	管脚名称	I/O	描述	管脚排列图
1	OUT	I	输出 1。	
2	IN-	O	反向输入 1。	
3	IN+	I	正向输入 1。	
4	GND	P	地。	
5	IN+	I	正向输入 2。	
6	IN-	P	反向输入 2。	
7	OUT	P	输出 2。	
8	VCC	I	电源。	

极限参数 (若无其它规定, $T_{amb}=25^{\circ}C$)

参数	标识	值
电源电压	V_{CC}	32 或 $\pm 16V$
差分输入电压	V_D	32V
输入电压	V_{IN}	$-0.3 \sim V_{CC}$
功耗	DIP 封装	830 mW
	SOP 封装	530 mW
输出端对地短路电流 (每路放大器, $V \leq 15V$)	I_{STE}	持续
输入电流 ($V_{IN} < -0.3V$)	I_{IN}	50mA
最大工作结温	T_J	$150^{\circ}C$
工作环境温度	T_A	$0 \sim +70^{\circ}C$
贮存温度	T_{stg}	$-65 \sim +150^{\circ}C$

电气特性

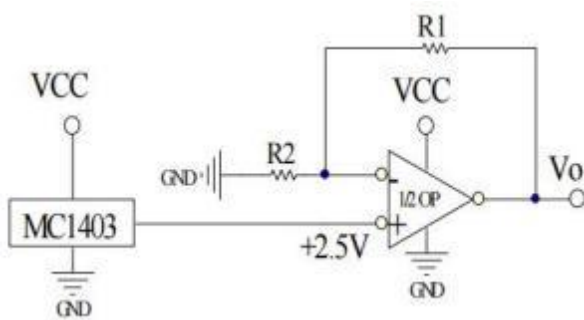
条件: (若无其它规定, $V_{CC}=5.0V$ 。)

参数	测试条件	Min	典型值	Max	单位
输入失调电压	$T_a=25^{\circ}C$		± 2	± 5	mV
输入偏置电流	$T_a=25^{\circ}C$, $I_{IN}(+)$ 或 $I_{IN}(-)$, $V_{CM}=0V$		± 45	± 250	nA
输入失调电流	$T_a=25^{\circ}C$, $I_{IN}(+) - I_{IN}(-)$, $V_{CM}=0V$		± 3	± 50	nA
输入共模电压范围	$T_a=25^{\circ}C$, $V^+=30V$	0		$V_{CC}-1.5$	V
电源电流	$R_L = \infty$ 在所有运算放大器上	$V_{CC} = 30V$	1	2	mA
		$V_{CC} = 5V$	0.5	1.2	mA
大信号电压增益	$V_{CC}=15V$, $T_a=25^{\circ}C$, $R_L \geq 2k\Omega$ (对于 $V_o=1 \sim 11V$)	25	100		V/mV
共模抑制比	DC, $T_a=25^{\circ}C$, $V_{CM}=0 \sim V_{CC}-1.5V$	65	90		dB
电源抑制比	DC, $T_a=25^{\circ}C$, $V_{CC} = 5 \sim 30V$	65	100		dB

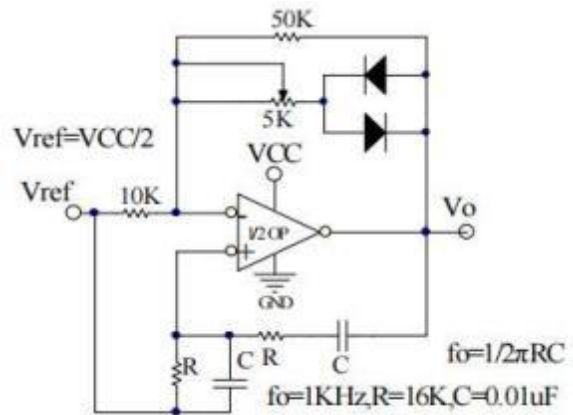


输出源电流	$V_{IN(+)}=1V, V_{IN(-)}=0V, V_{CC}=15V, V_o=2V, T_a=25^\circ C$	20	40		mA
输出吸电流	$V_{IN(-)}=1V, V_{IN(+)}=0V, V_{CC}=15V, V_o=2V, T_a=25^\circ C$	10	15		mA
	$V_{IN(-)}=1V, V_{IN(+)}=0V, V_{CC}=15V, V_o=200mV, T_a=25^\circ C$	12	50		μA
对地短路电流	$V_{CC}=15V, T_a=25^\circ C$		40	60	mA
输出电压摆幅	VOH	$V_{CC}=30V, R_L=2k\Omega$	26		V
		$V_{CC}=30V, R_L=10k\Omega$	27	28	V
	VOL	$V_{CC}=5V, R_L=10k\Omega$		5	20

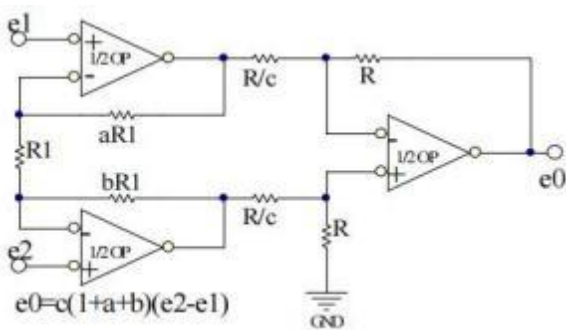
典型应用



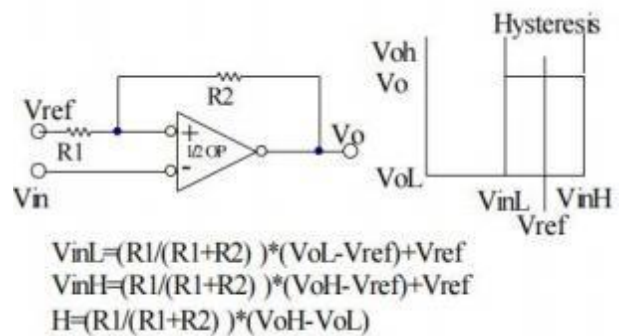
电压基准, $V_o=2.5V (1+R1/R2)$



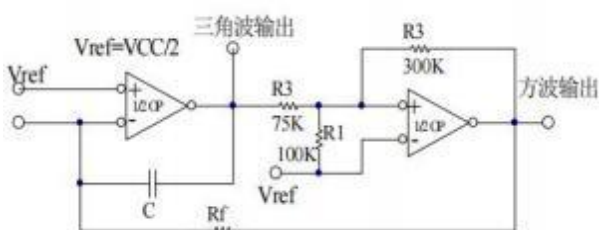
文氏桥振荡器



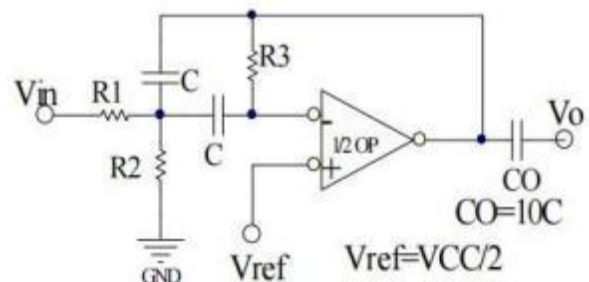
高阻抗差动放大器



迟滞比较器



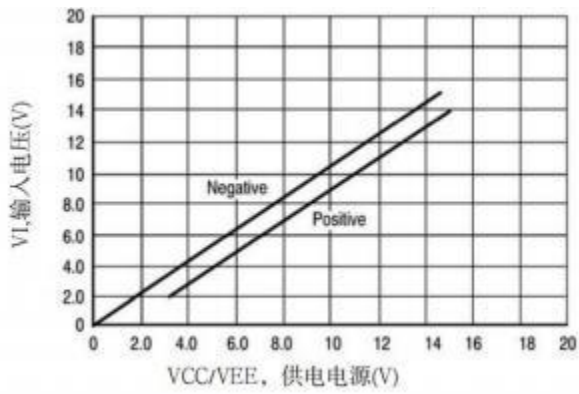
函数信号发生器



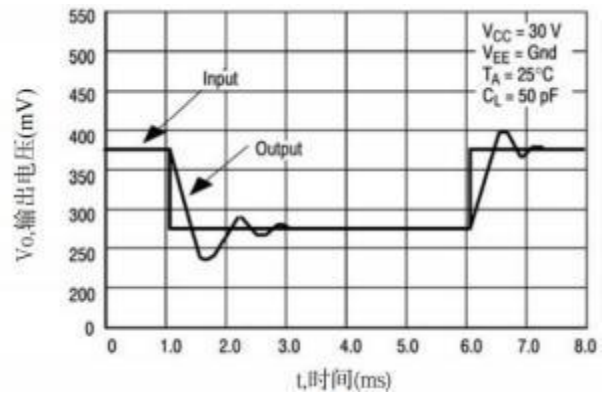
fo = center frequency 多反馈带通滤波器



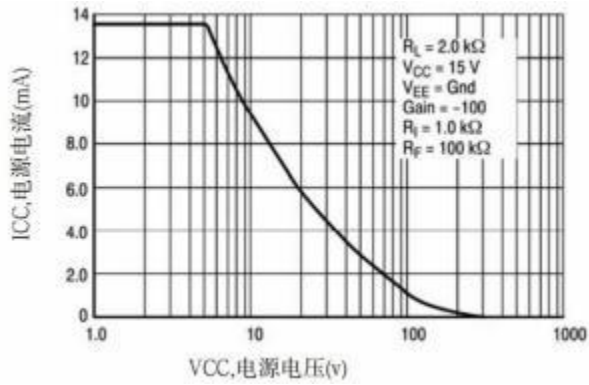
特性曲线



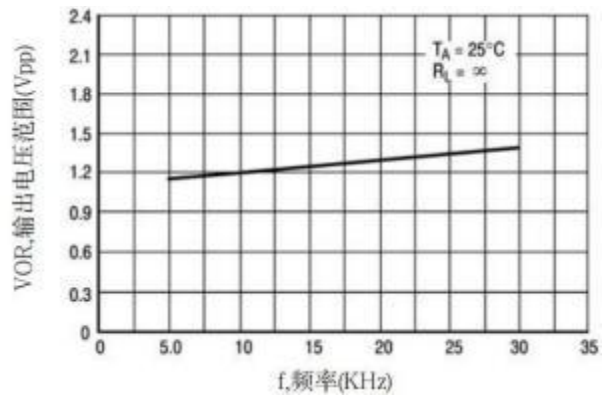
输入电压范围



小信号电压跟随器脉冲响应 (同向)



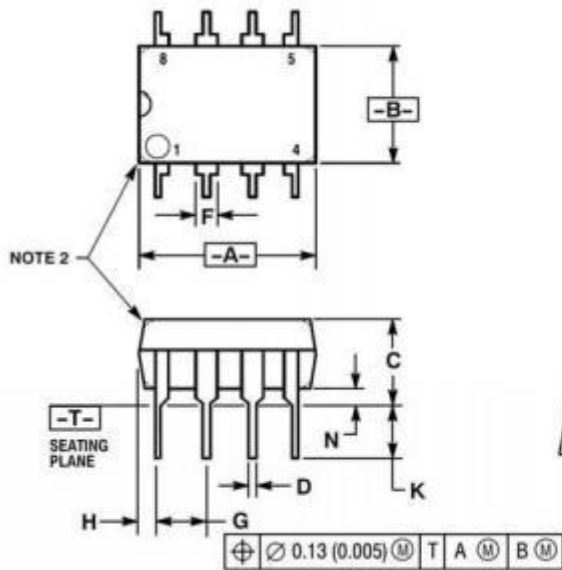
电源电流 (静态功耗)



大信号频率响应



封装机械数据:

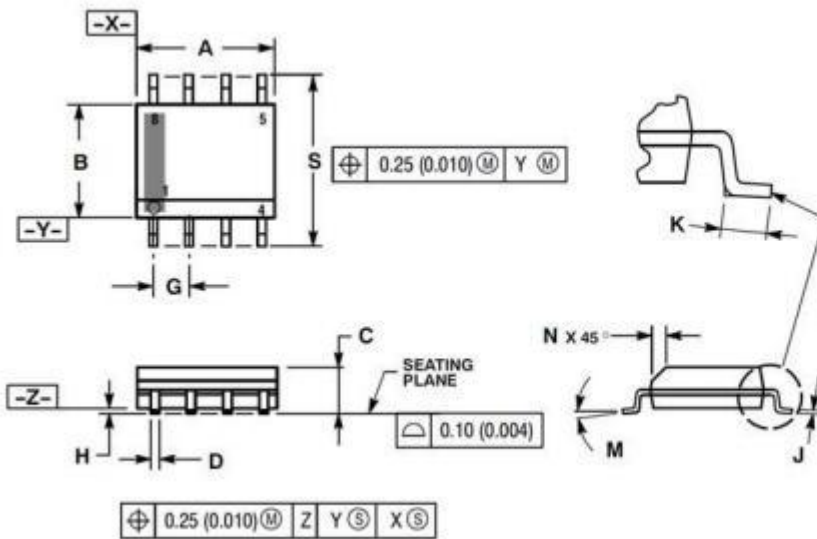


DIP8

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



SOP8 (SOIC-8)

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
G	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



Attention

- Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.
- HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.
- Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.