

# MSKSEMI 美森科

SEMICONDUCTOR



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PLED

## LM258DR(MS)

产品规格手册

## 概述

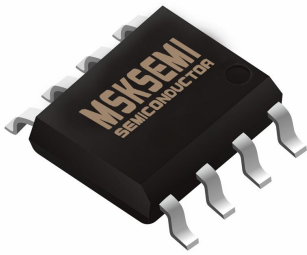
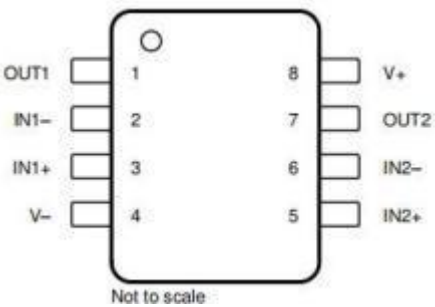

LM258DR(MS) 是由两个独立的高增益运算放大器组成。可以是单电源工作，也可以是双电源工作，电源的功耗电流与电源电压大小无关。应用范围包括音频放大器、工业控制、DC 增益部件和所有常规运算放大电路。

采用 SOP-8 封装形式。

## 产品特点

- 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

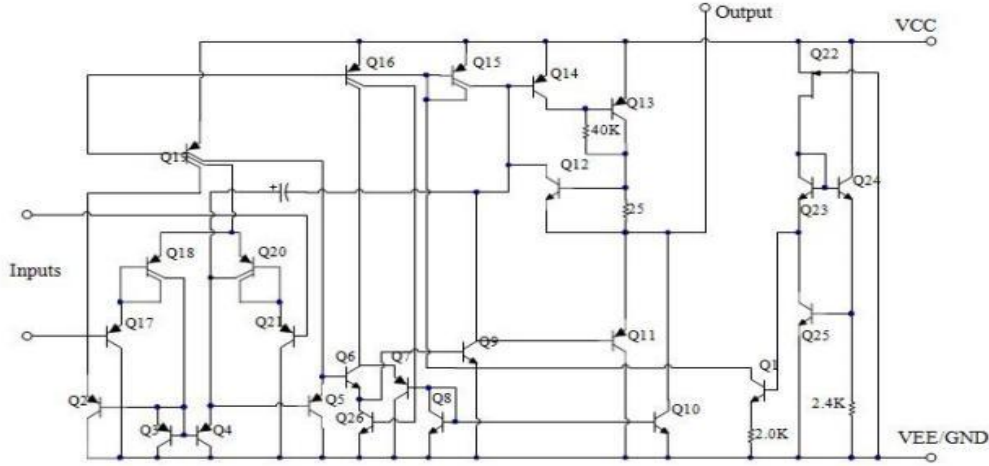
## 封装形式和管脚功能定义

封装图	脚位信息	丝印
 <p>SOP-8</p>	 <p>Not to scale</p>	

## 管脚说明

管脚序号	管脚名称	I/O	描述
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。

功能框图 (每路运放)



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	$P_D$	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		$T_{stg}$	$-65 \sim +150^{\circ}C$

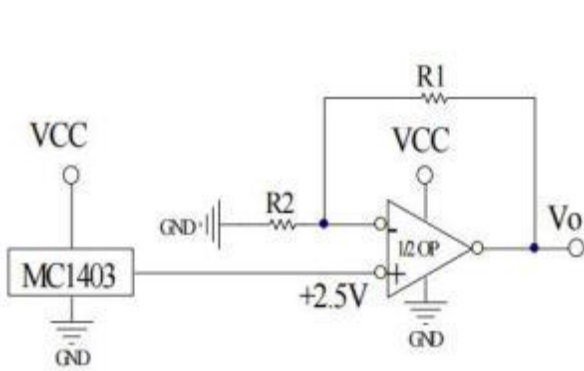
电气特性

条件: (若无其它规定,  $V_{CC}=5.0V$ 。)

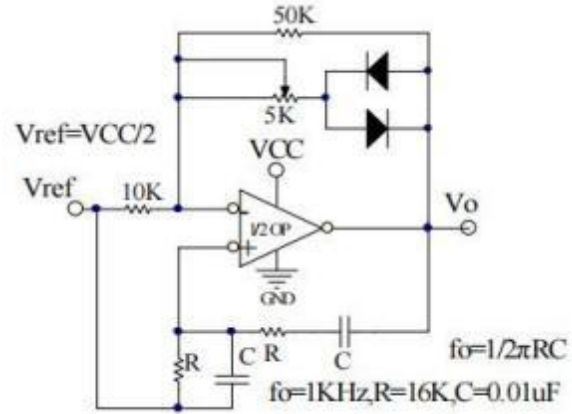
参数	测试条件	Min	典型值	Max	单位
输入失调电压	$T_a=25^{\circ}C$		$\pm 2$	$\pm 5$	mV
输入偏置电流	$T_a=25^{\circ}C$ , $I_{IN(+)}$ 或 $I_{IN(-)}$ , $V_{CM}=0V$		$\pm 45$	$\pm 250$	nA
输入失调电流	$T_a=25^{\circ}C$ , $I_{IN(+)} - I_{IN(-)}$ , $V_{CM}=0V$		$\pm 3$	$\pm 50$	nA
输入共模电压范围	$T_a=25^{\circ}C$ , $V^+=30V$	0		$V_{CC}-1.5$	V
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	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	28	V
	VOL	Vcc=5V, RL=10kΩ		5	20

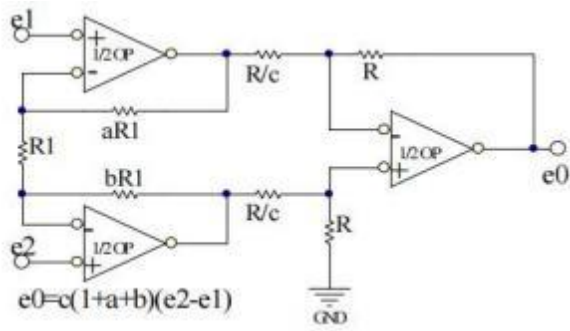
**典型应用**



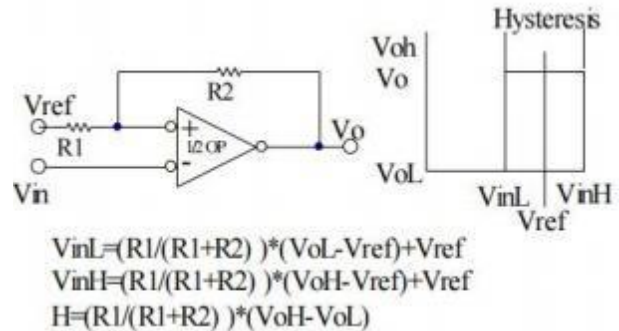
电压基准,  $V_o = 2.5V (1 + R1/R2)$



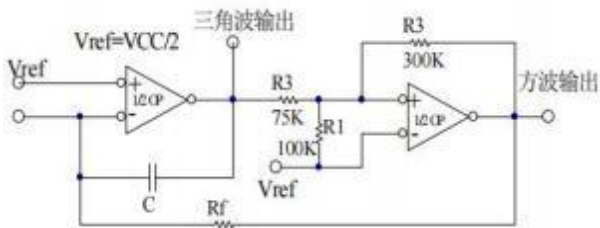
文氏桥振荡器



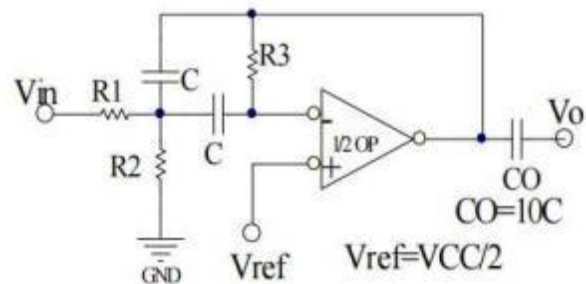
高阻抗差动放大器



迟滞比较器

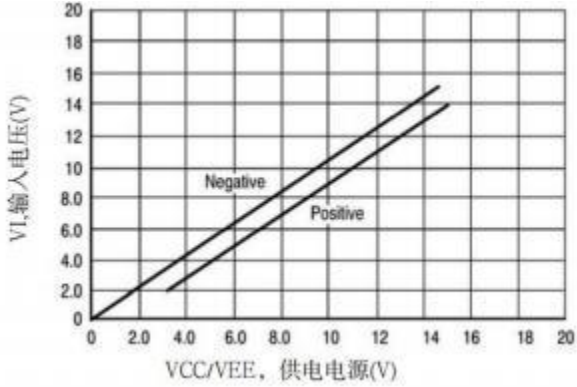


函数信号发生器

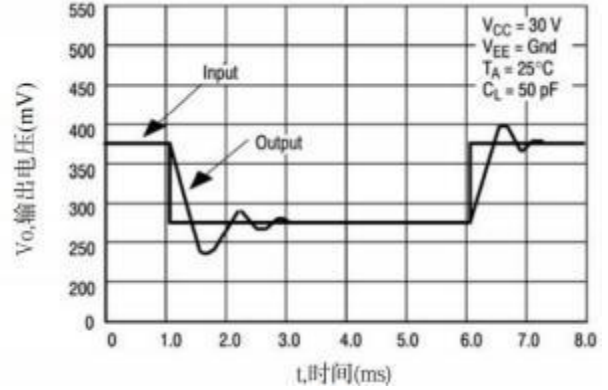


$f_o = \text{center frequency}$  多反馈带通滤波器

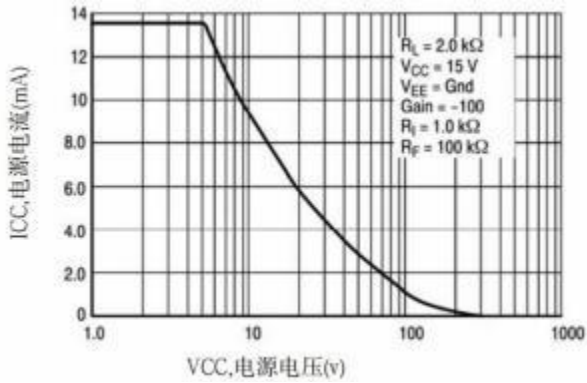
特性曲线



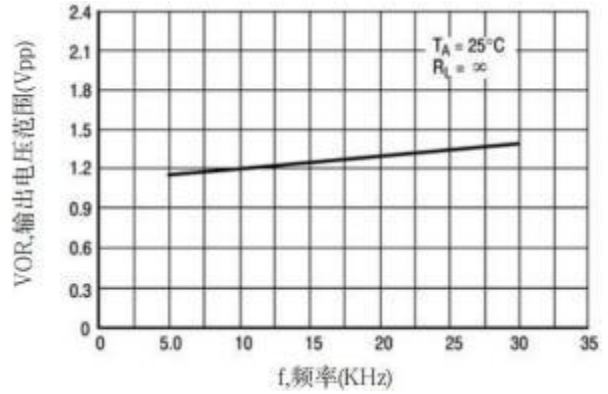
输入电压范围



小信号电压跟随器脉冲响应 (同向)

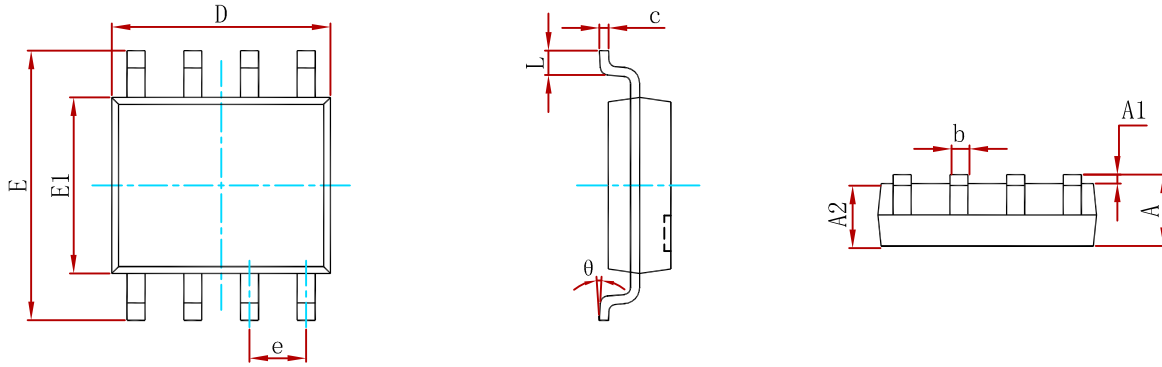


电源电流 (静态功耗)



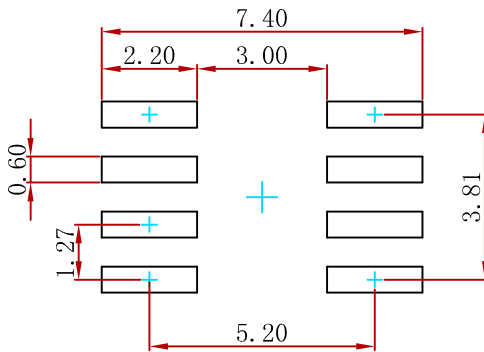
大信号频率响应

**包装机械数据**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
theta	0°	8°	0°	8°

**焊盘布局**



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05$ mm.  
 3. The pad layout is for reference purposes only.

**订购信息**

P/N	PKG	QTY
LM258DR (MS)	SOP-8	2500

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