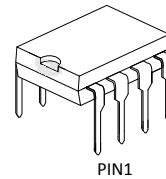




概述:

HLM358N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 DIP-8 封装形式。

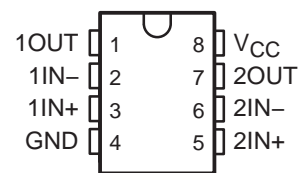


DIP-8

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。

功能框图和管脚排列图



极限值 (绝对最大额定值, 若无其它规定, $T_{amb}=25^{\circ}\text{C}$)

参数名称	数值	单位
电源电压	24 或 ± 12	V
差分输入电压	24	V
输入电压	-0.3 ~ 24	V
输出端对地短路电流 (1 放大器) ($V \leq 15\text{V}$ 、 $T_a=25^{\circ}\text{C}$)	持续	
输入电流 ($V_{IN} < -0.3\text{V}$)	50	mA
工作环境温度	0 ~ 70	$^{\circ}\text{C}$
贮存温度	-65 ~ 150	$^{\circ}\text{C}$



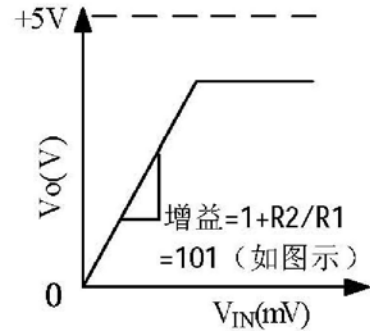
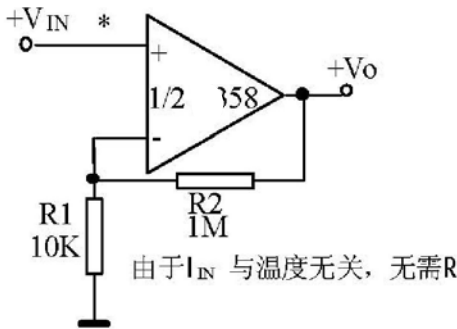
电特性 (若无其它规定, $V_+ = 5.0V$)

特性	测试条件	规范值			单位	
		最小	典型	最大		
输入失调电压	$T_a = 25^\circ C$		2	7	mV	
输入偏流	$T_a = 25^\circ C$, $I_{IN}(+)$ 或 $I_{IN}(-)$, $V_{CM} = 0V$		45	150	nA	
输入失调电流	$T_a = 25^\circ C$, $I_{IN}(+) - I_{IN}(-)$, $V_{CM} = 0V$		3	30	nA	
输入共模电压范围	$T_a = 25^\circ C$, $V^+ = 24V$	0		$V^+ - 1.5$	V	
电源电流	在整个温度范围上, $R_L = \infty$ 在所有运算放大器上,	$V^+ = 24V$	1	2	mA	
		$V^+ = 5V$	0.5	1.2		
大信号电压增益	$V^+ = 15V$, $T_a = 25^\circ C$, $R_L \geq 2k\Omega$ (对于 $V_o = 1 \sim 11V$)	50	100		V/mV	
共模抑制比	DC, $T_a = 25^\circ C$, $V_{CM} = 0 \sim V^+ - 1.5V$	65	90		dB	
电源抑制比	DC, $T_a = 25^\circ C$, $V^+ = 5 \sim 24V$	65	100		dB	
放大器之间的耦合系数	$T_a = 25^\circ C$, $f = 1 \sim 20kHz$ (所有的输入)		-120		dB	
输出源电流	$V_{IN}(+) = 1V, V_{IN}(-) = 0V, V^+ = 15V, V_o = 2V, T_a = 25^\circ C$	20	40		mA	
输出吸电流	$V_{IN}(-) = 1V, V_{IN}(+) = 0V, V^+ = 15V, V_o = 2V, T_a = 25^\circ C$	10	20		mA	
	$V_{IN}(-) = 1V, V_{IN}(+) = 0V, V^+ = 15V, V_o = 200mV, T_a = 25^\circ C$	12	50		μA	
对地短路电流	$V^+ = 15V$, $T_a = 25^\circ C$		40	60	mA	
输入失调电压				7	mV	
输入失调电压漂移	$R_s = 0\Omega$		7		$\mu V/^\circ C$	
输入失调电流	$I_{IN}(+) - I_{IN}(-)$			100	nA	
输入失调电流漂移	$R_s = 0\Omega$		10		$pA/^\circ C$	
输入偏置电流	$I_{IN}(+)$ 或 $I_{IN}(-)$		40	300	nA	
输入共模电压范围	$V^+ = 24V$	0		$V^+ - 2$	V	
大信号电压增益	$V^+ = 15V$, ($V_o = 1 \sim 11V$), $R_L \geq 2k\Omega$	25			V/mV	
输出电压摆幅	VOH	$V^+ = 24V$	$R_L = 2k\Omega$	20		V
			$R_L = 10k\Omega$	21	22	V
	VOL	$V^+ = 5V, R_L = 10k\Omega$		5	20	mV
输出电流	$V_{IN}(+) = 1V, V_{IN}(-) = 0V, V^+ = 15V, V_o = 2V$	10	20		mA	
	$V_{IN}(-) = 1V, V_{IN}(+) = 0V, V^+ = 15V, V_o = 2V$	5	8		mA	



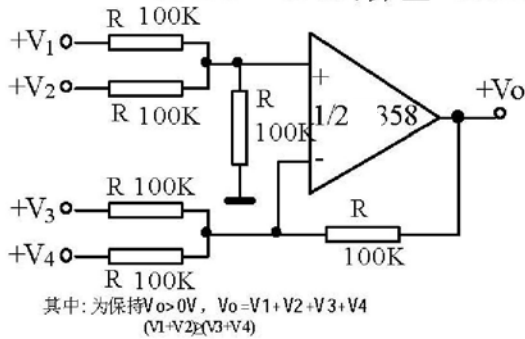
典型应用

同相直流增益 (0V输入=0V输出)

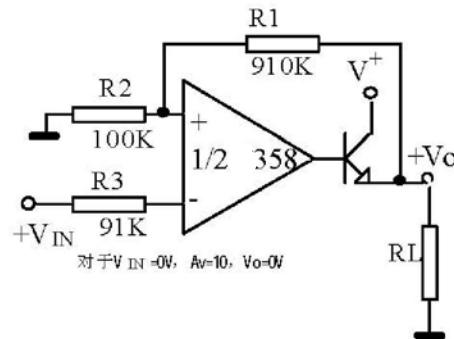


直流求和放大器

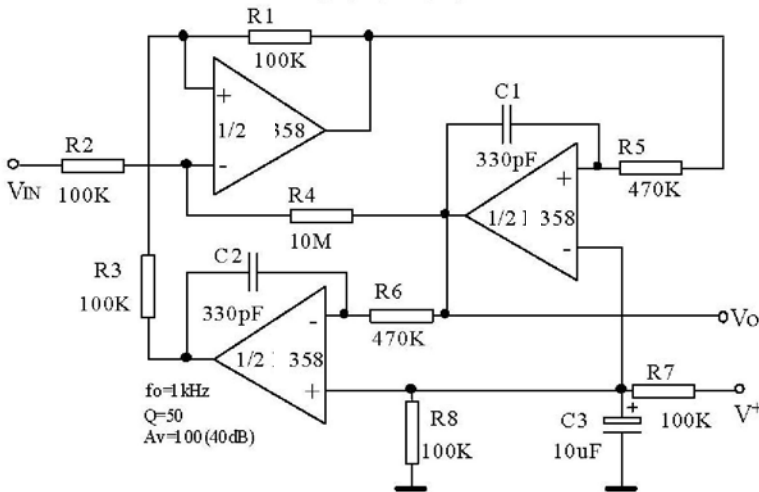
(VIN'S ≥ 0V, 并且 Vo ≥ 0V)



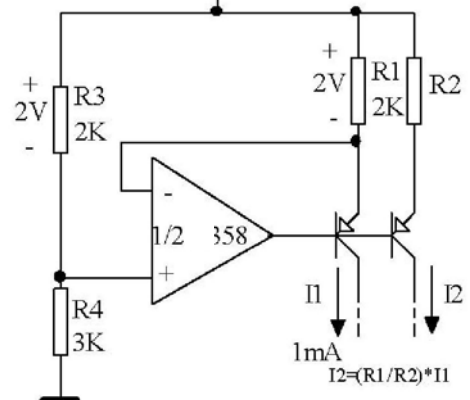
功率放大器



RC 有源带通滤波器

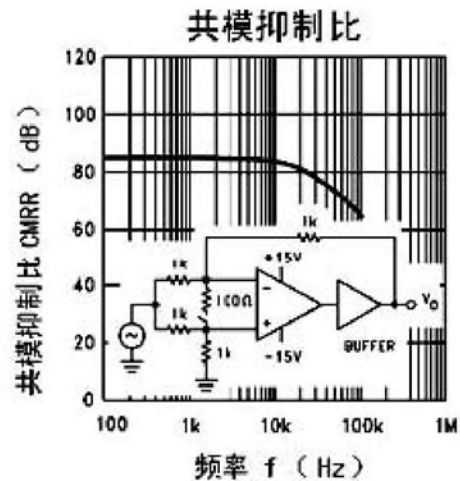
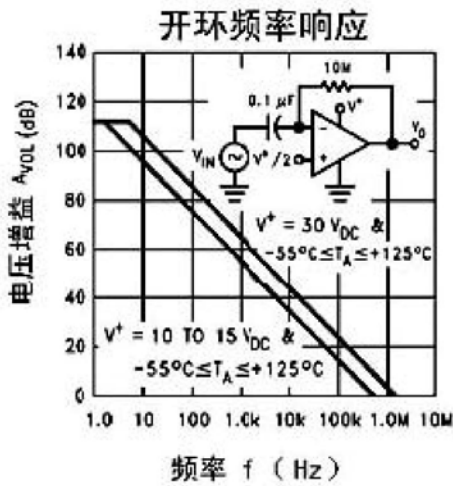
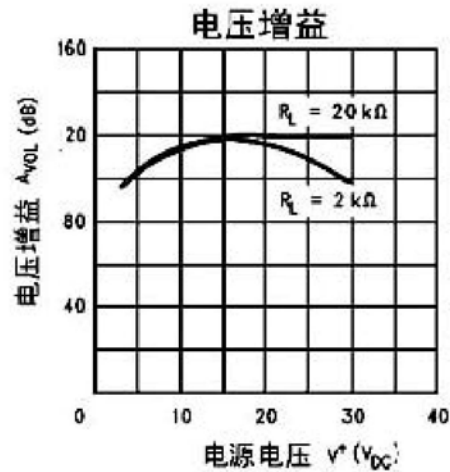
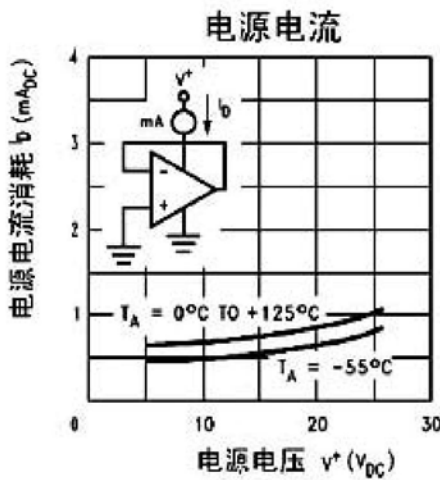
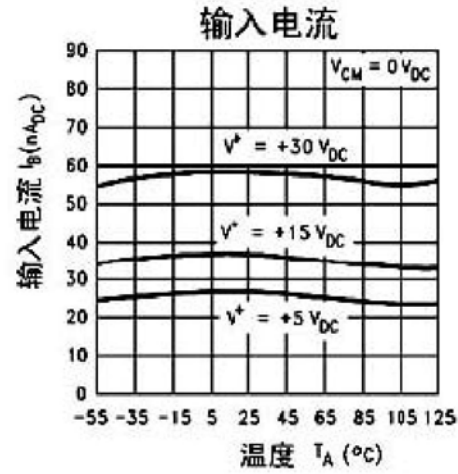
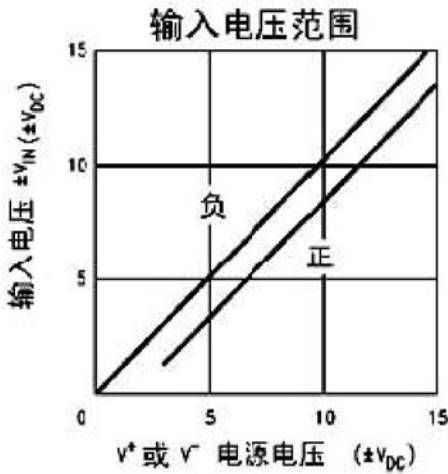


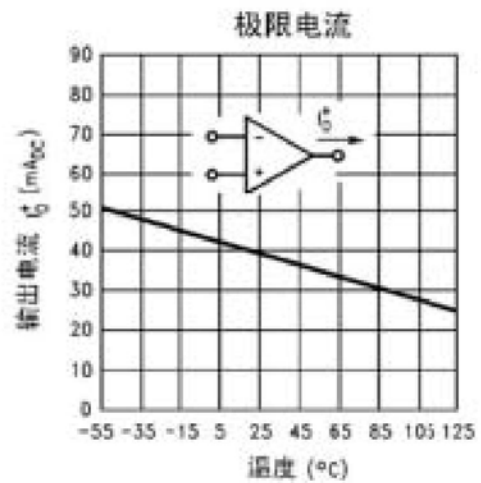
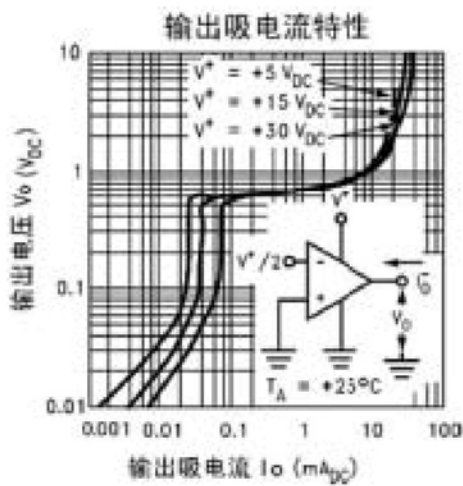
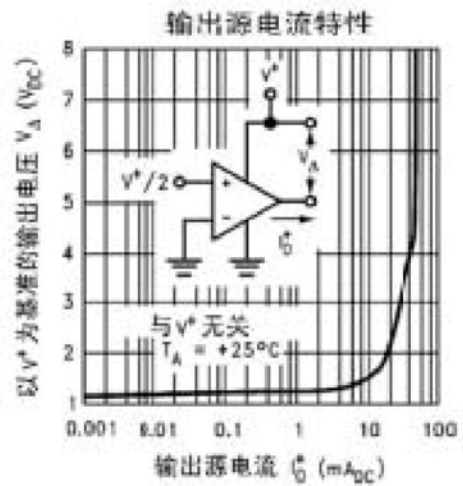
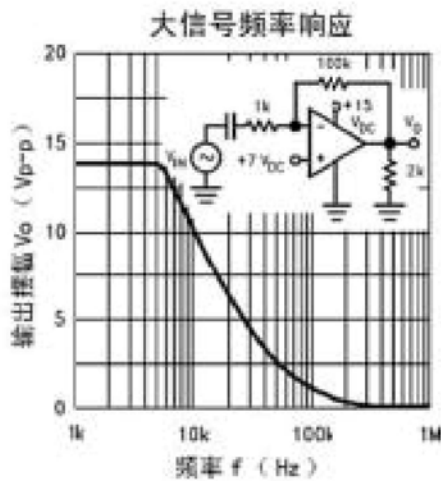
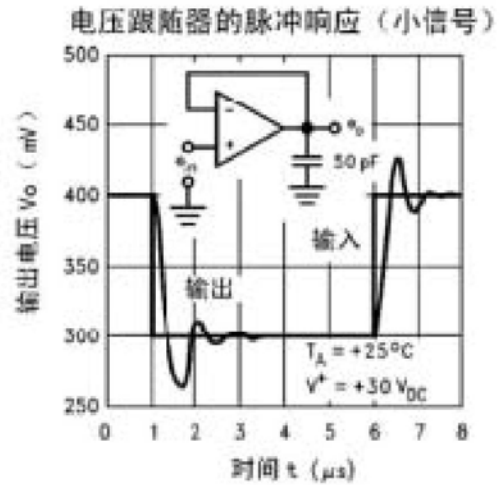
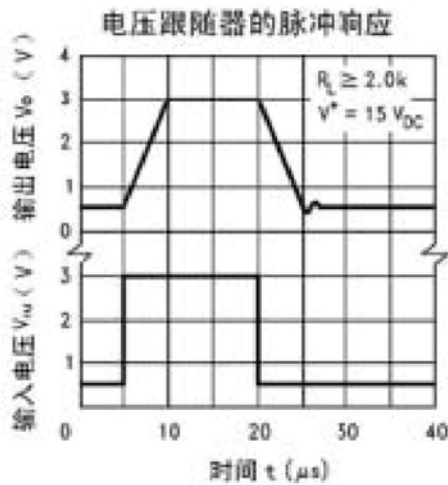
固定电流源





典型特性曲线

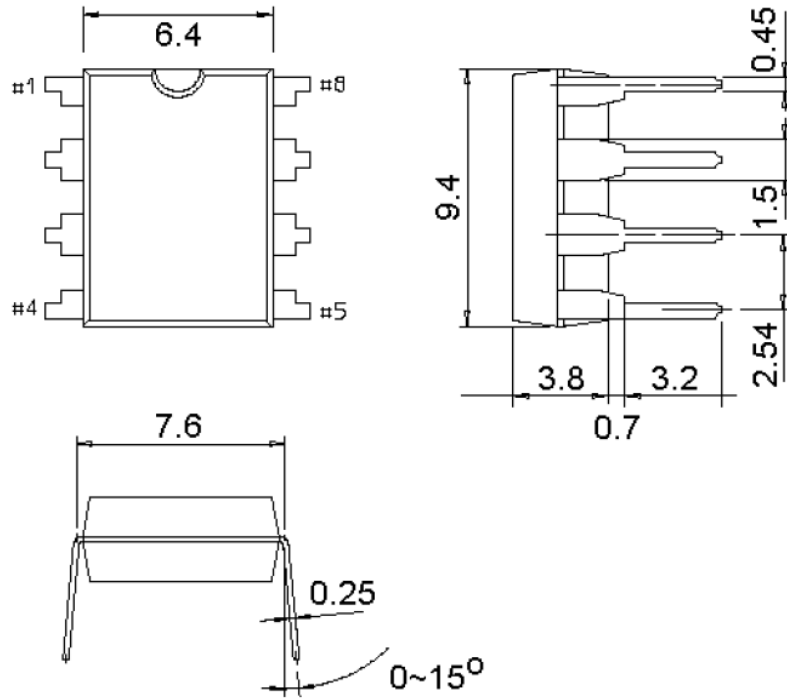






封装信息：

DIP-8





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