

## 概述

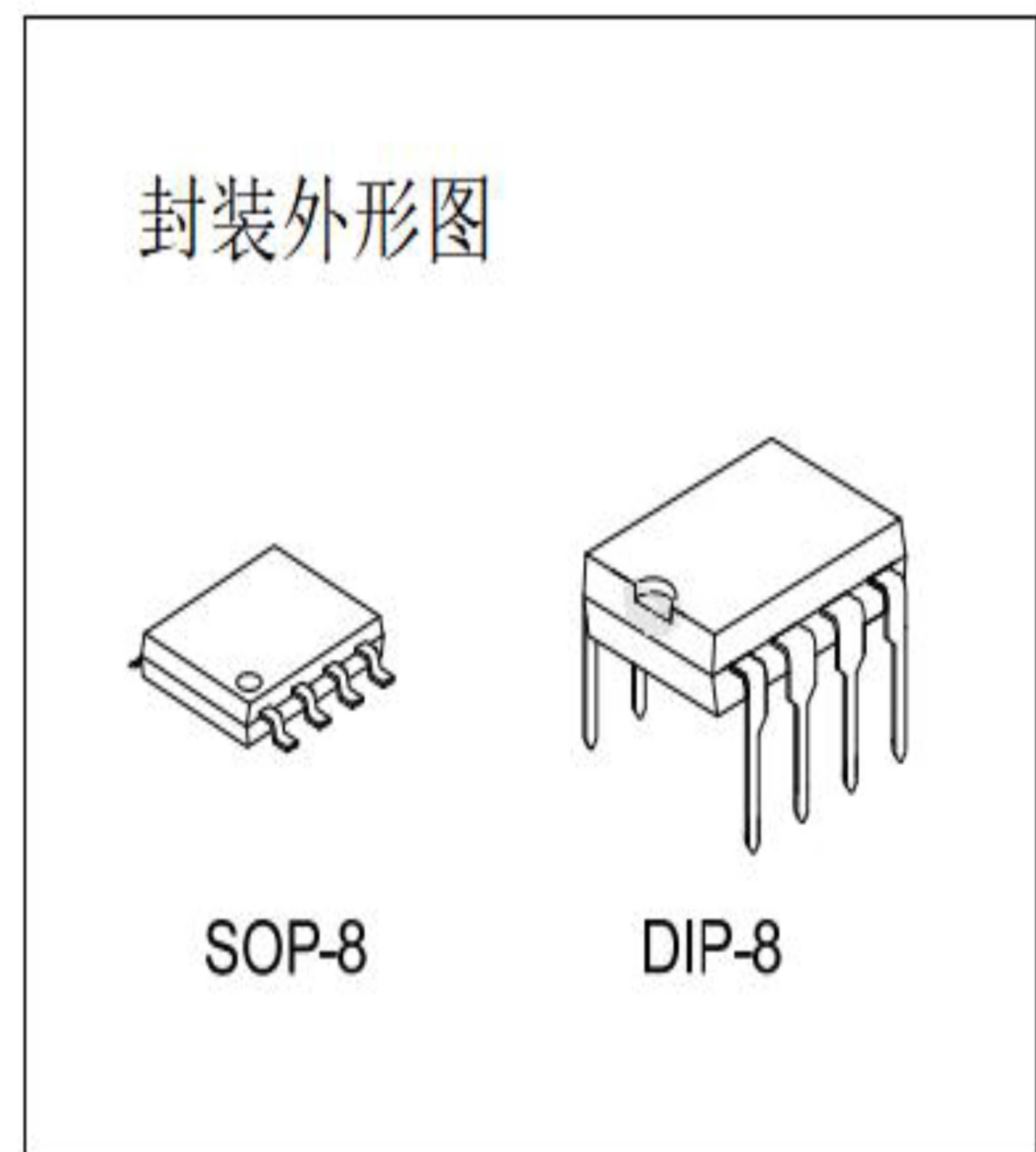
TL062 是一款高速 J-FET 单运算放大器，由高压 J-FET 和双极晶体管构成。具有高转换速率、低输入偏置电流和失调电

流以及低失调电压温度系数。

TL062 提供了 DIP8 和 SOP8 封装形式。

## 特点

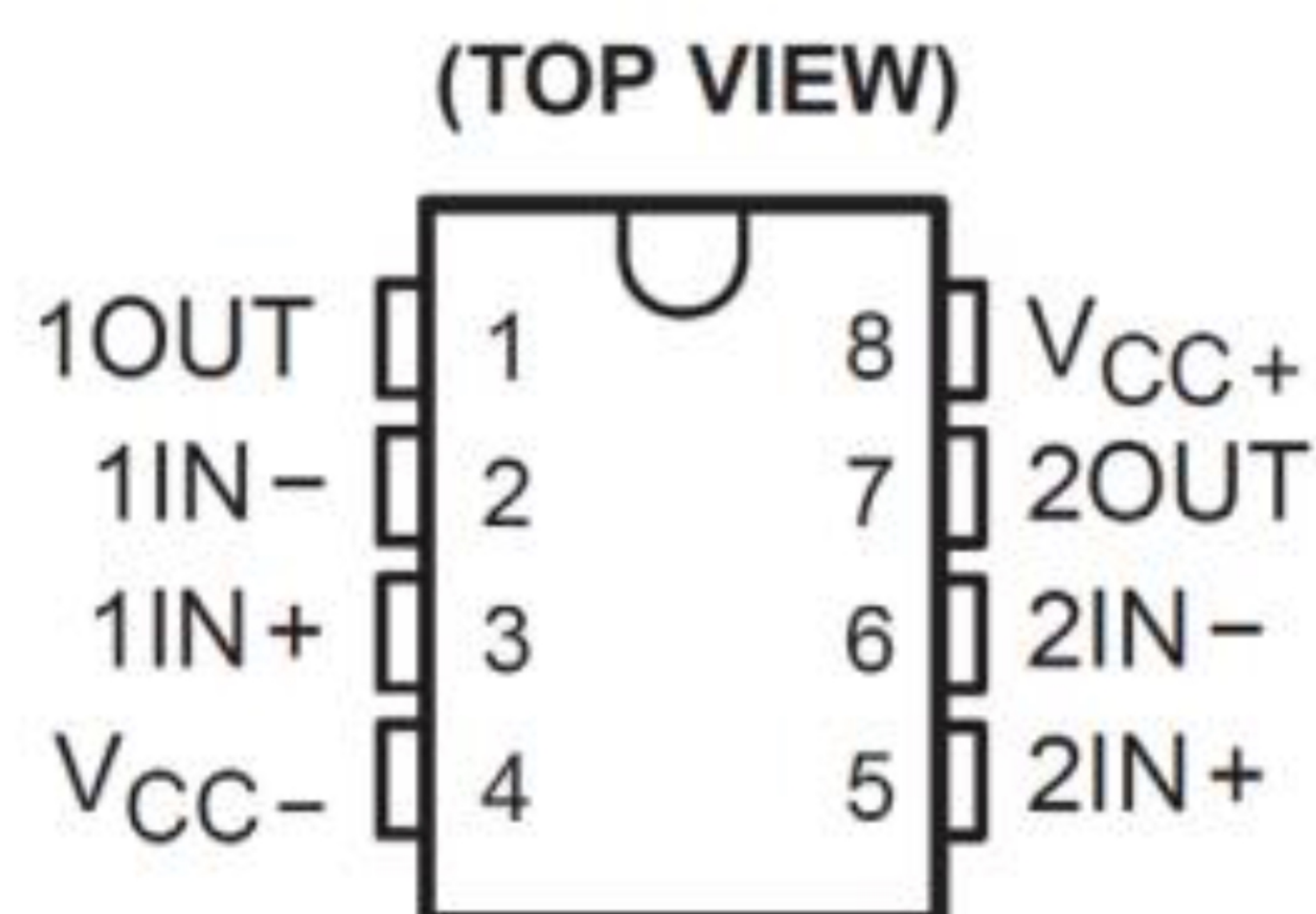
- 较低功耗
- 宽的共模和差模输入电压范围
- 低的输入偏置电流和失调电流
- 输出短路电流保护
- 高输入阻抗
- 高转换速率
- 高增益带宽积，高达 4MHz



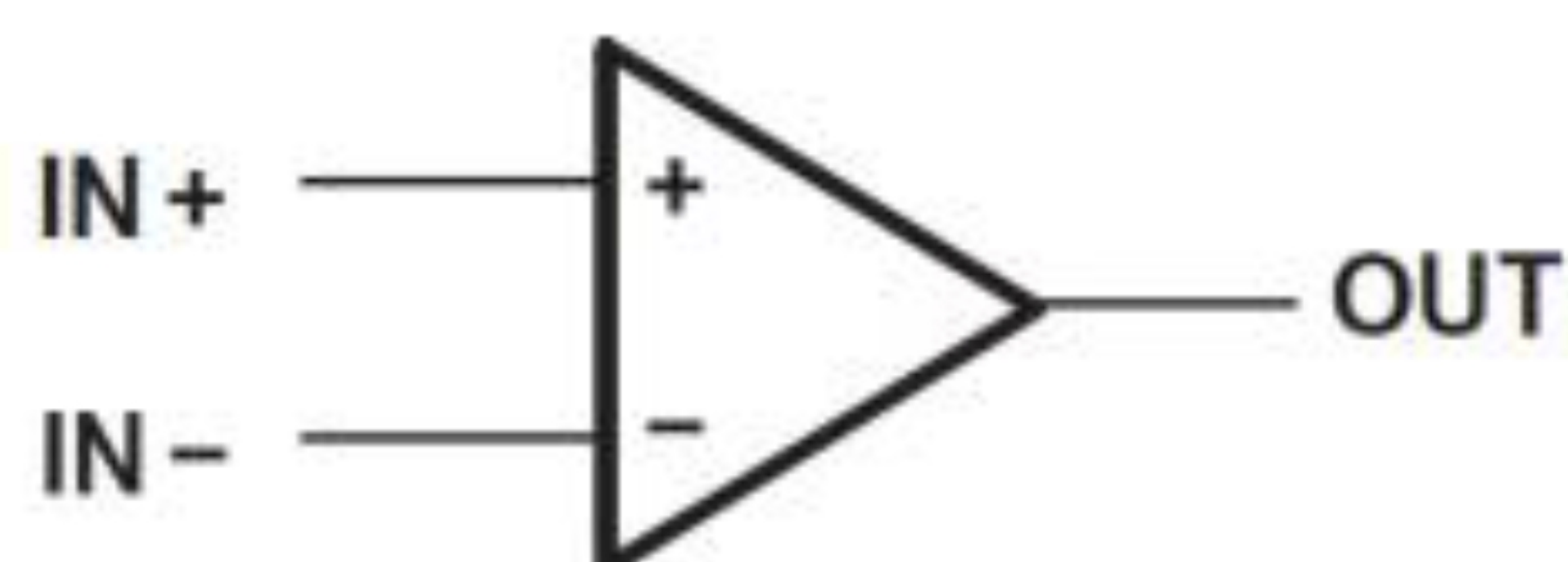
## 订购信息

产品型号	封装	丝印	包装	包装数量
TL062CN	DIP-8	TL062CN	管装	2000只/盒
TL062CDTR	SOP-8	TL062C	编带	2500只/盘

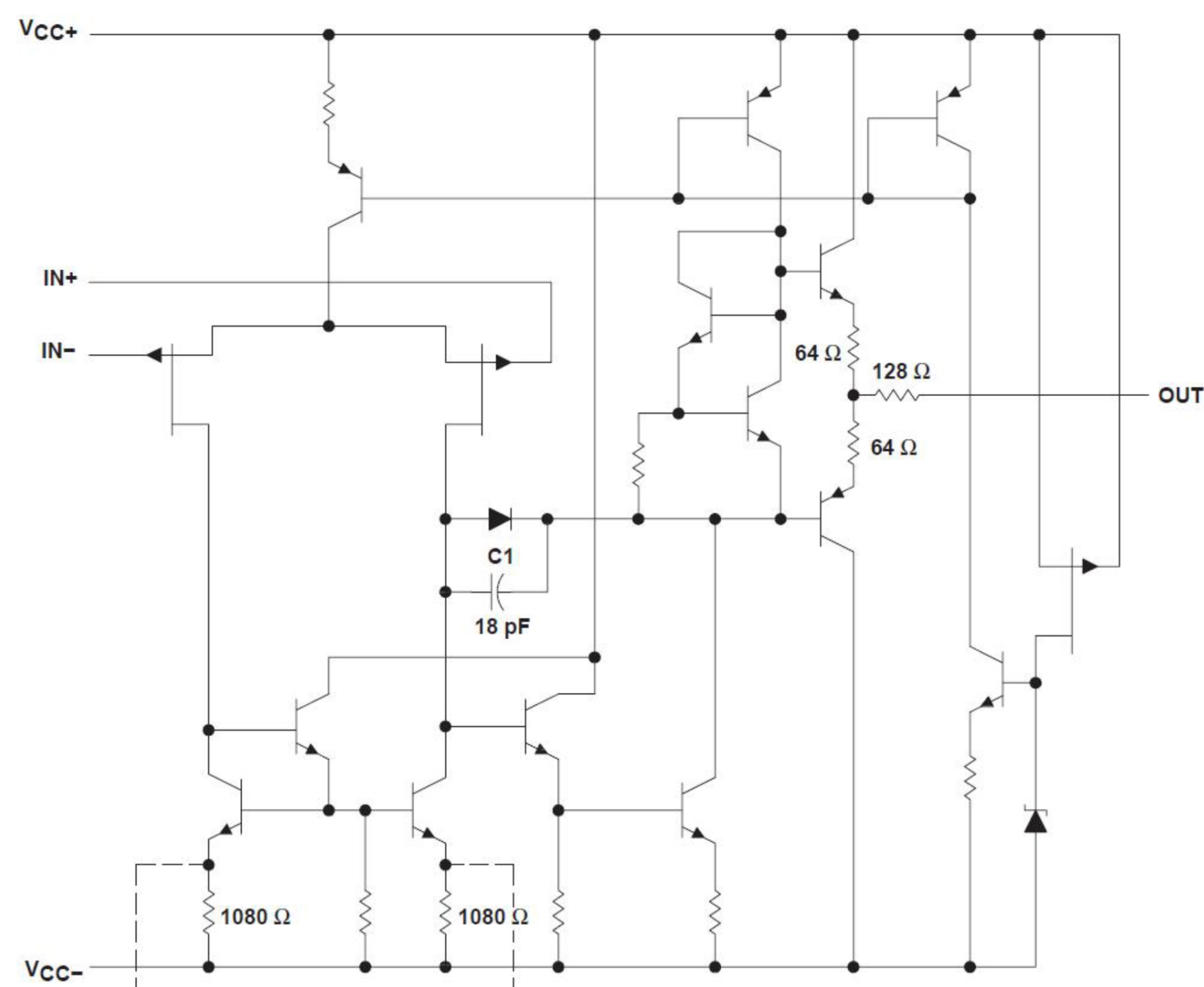
## 引脚图



## 符号



## 内部框图



## 极限参数

符号	描述	极限值	单位
Vcc	电源电压	±18	V
Vi	输入电压	±14	V
Vid	差模输入电	±28	V
Toper	工作温度	0—70	°C
Tstg	储藏温度	-65—150	°C

## 电气参数特性

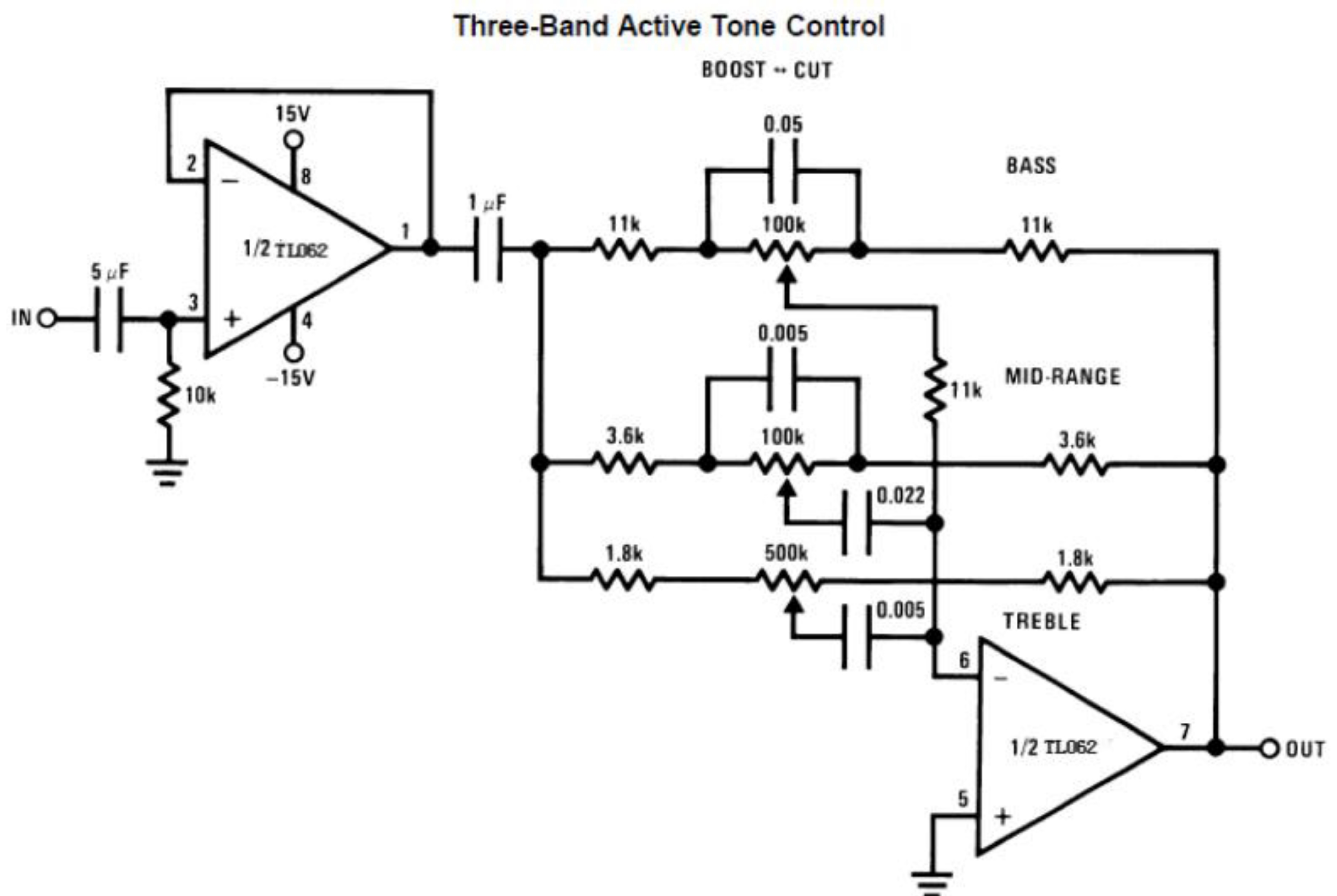
( Vcc=±15, Tamp=25°C , 特殊情况另外说明 )

符号	参数名称	测试条件	测试值			单位
			Min	Typ	Max	
Vio	失调电压	Vo=0V		3	15	mV
Iio	输入失调电流	Vo=0V			1.5	nA
Iib	输入偏置电流	Vo=0V			2.5	nA
Vicr	输入共模电压		-12	±11	15	V
Vom	输出电压峰值	RL = 10 kΩ	±12	±13.5		V
		RL ≥ 2 kΩ	±10	±12.5		
AVD	大信号电压增益	RL ≥ 2 kΩ, VO = ±10 V	80	95		dB
B1	增益带宽积			3		MHz
CMRR	共模抑制比		70	85		dB

kSVR	电源抑制比	$V_{CC} = \pm 15\text{ V to } \pm 9\text{ V}$ $V_o=0\text{V}$	70	86		dB
ICC	静态电流-每通道			1.4	2.8	mA
SR	转换速率	$V_I = 10\text{ V,}$	8	13		V/us
tr	上升时间			0.05		us

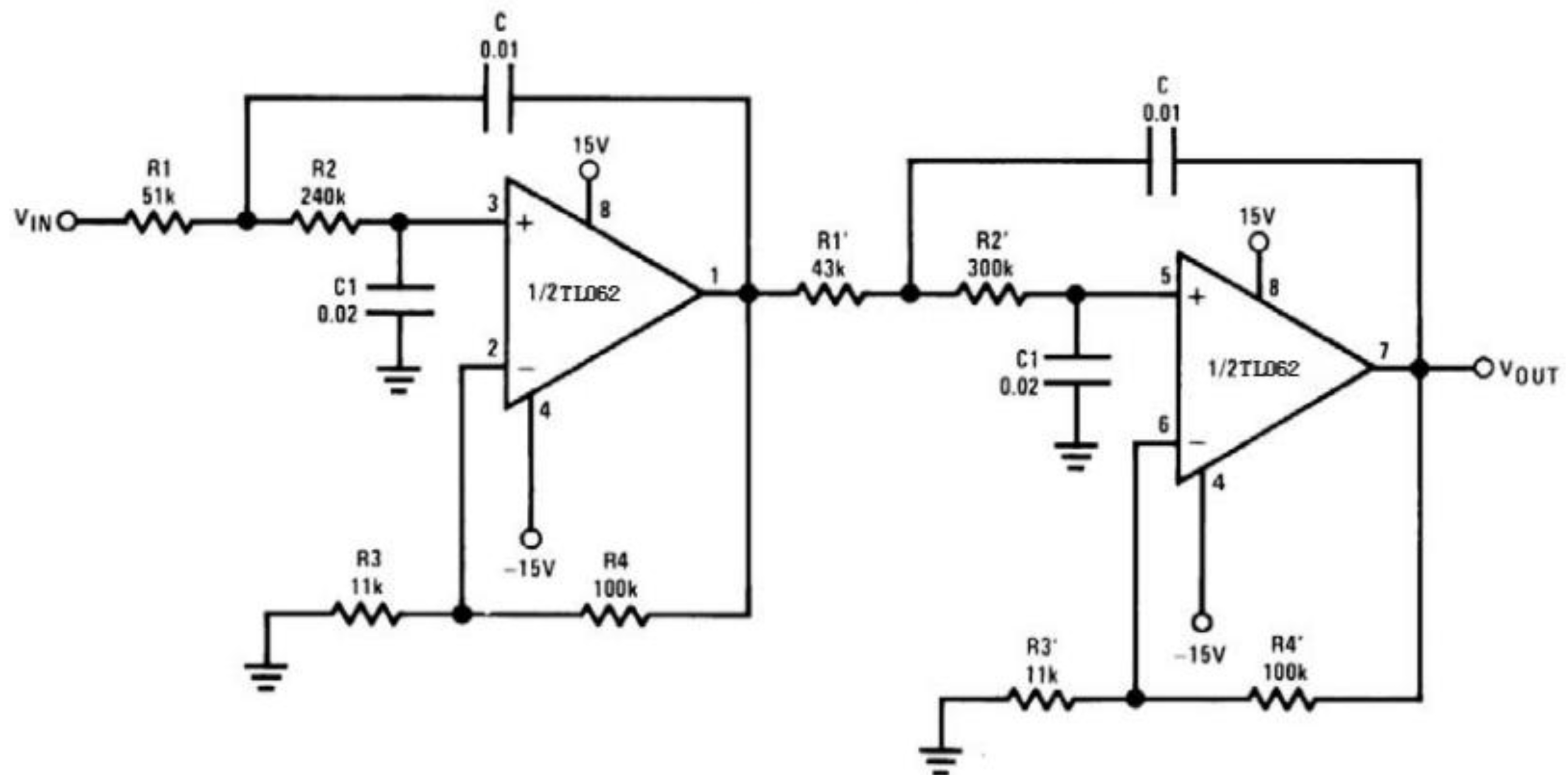
## 典型应用 (其中一路运算放大器)

### 1) 三段音调控制 Three-Band Active Tone Control



## 2) 四阶低通滤波

Fourth Order Low Pass Butterworth Filter



- Corner frequency ( $f_c$ ) =  $\sqrt{\frac{1}{R_1 R_2 C C_1}} \cdot \frac{1}{2\pi} = \sqrt{\frac{1}{R_1' R_2' C C_1}} \cdot \frac{1}{2\pi}$

- Passband gain ( $H_0$ ) =  $(1 + R_4/R_3) (1 + R_4'/R_3')$

- First stage  $Q = 1.31$

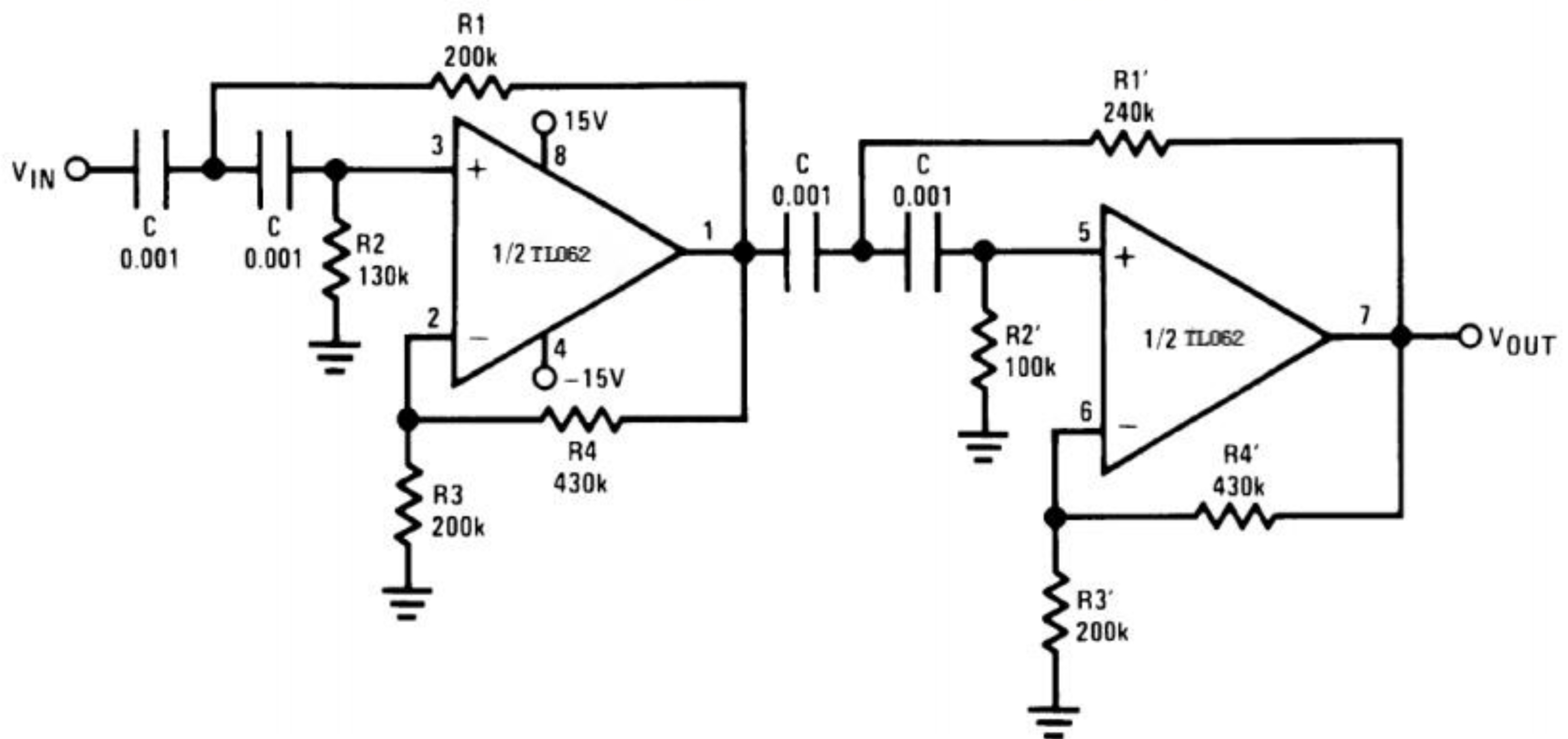
- Second stage  $Q = 0.541$

- Circuit shown uses nearest 5% tolerance resistor values for a filter with a corner frequency of 100 Hz and a passband gain of 100

- Offset nulling necessary for accurate DC performance

## 3) 四阶高通滤波

Fourth Order High Pass Butterworth Filter



- Corner frequency ( $f_c$ ) =  $\sqrt{\frac{1}{R_1 R_2 C^2}} \cdot \frac{1}{2\pi} = \sqrt{\frac{1}{R_1' R_2' C^2}} \cdot \frac{1}{2\pi}$

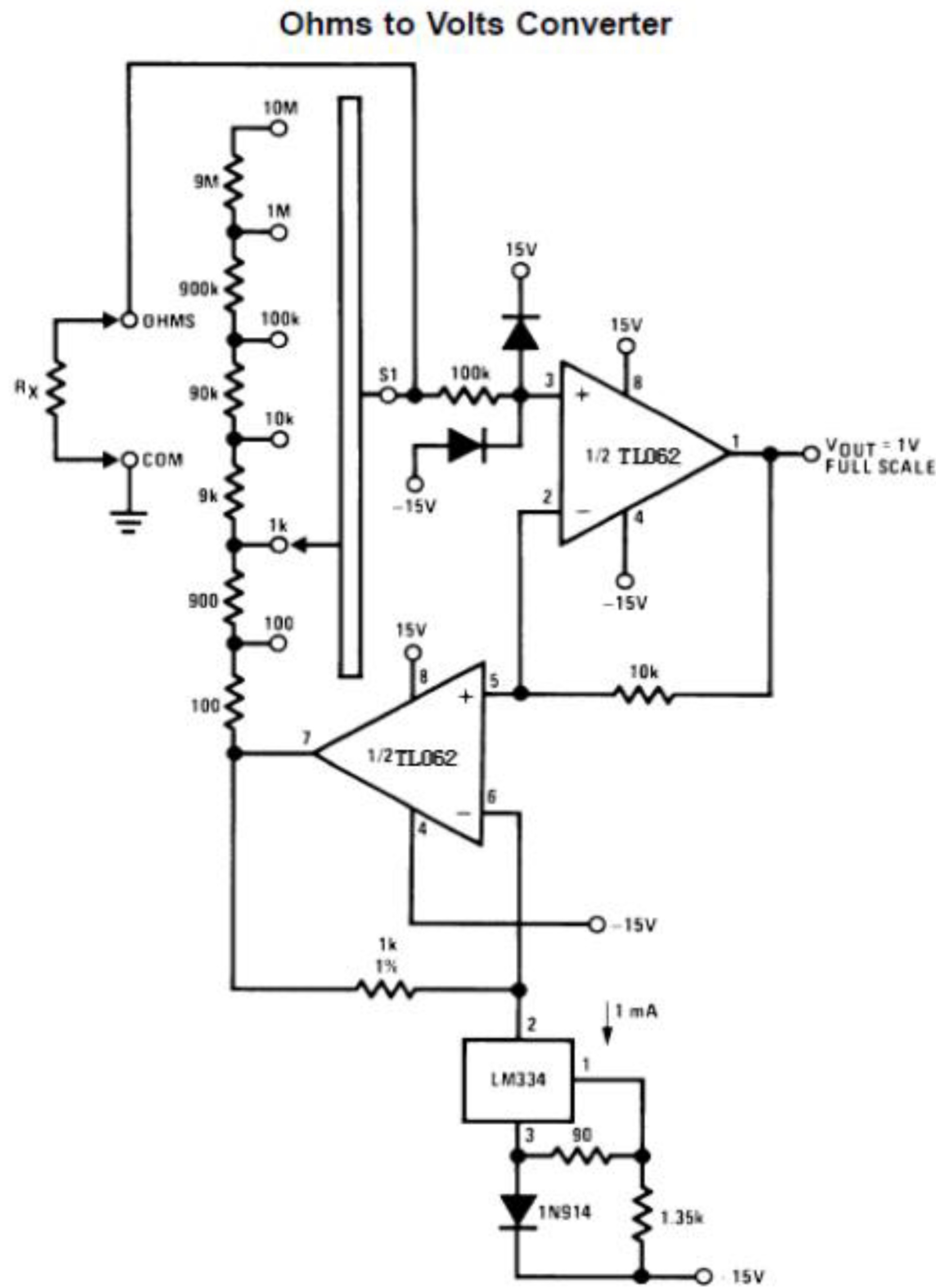
- Passband gain ( $H_0$ ) =  $(1 + R_4/R_3) (1 + R_4'/R_3')$

- First stage  $Q = 1.31$

- Second stage  $Q = 0.541$

- Circuit shown uses closest 5% tolerance resistor values for a filter with a corner frequency of 1 kHz and a passband gain of 10

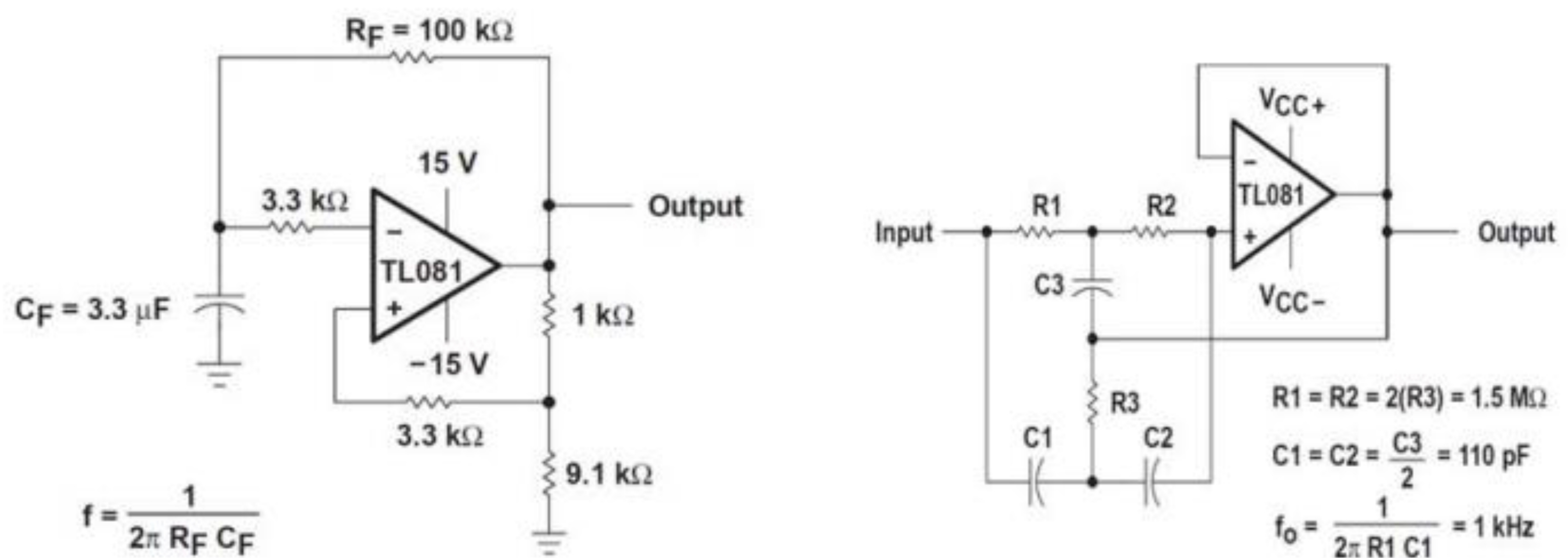
### 4) 电阻电压转换



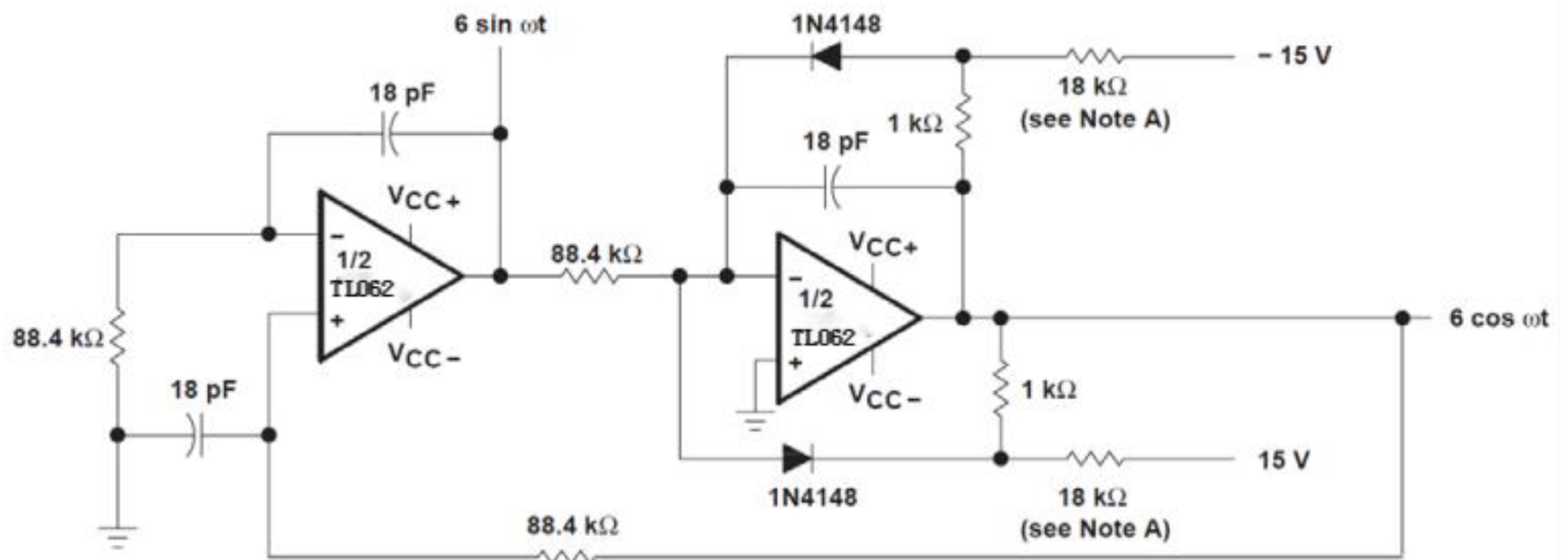
$$V_O = \frac{1V}{R_{LADDER}} \times R_X$$

Where  $R_{LADDER}$  is the resistance from switch S1 pole to pin 7 of the TL062

### 5) 典型线路

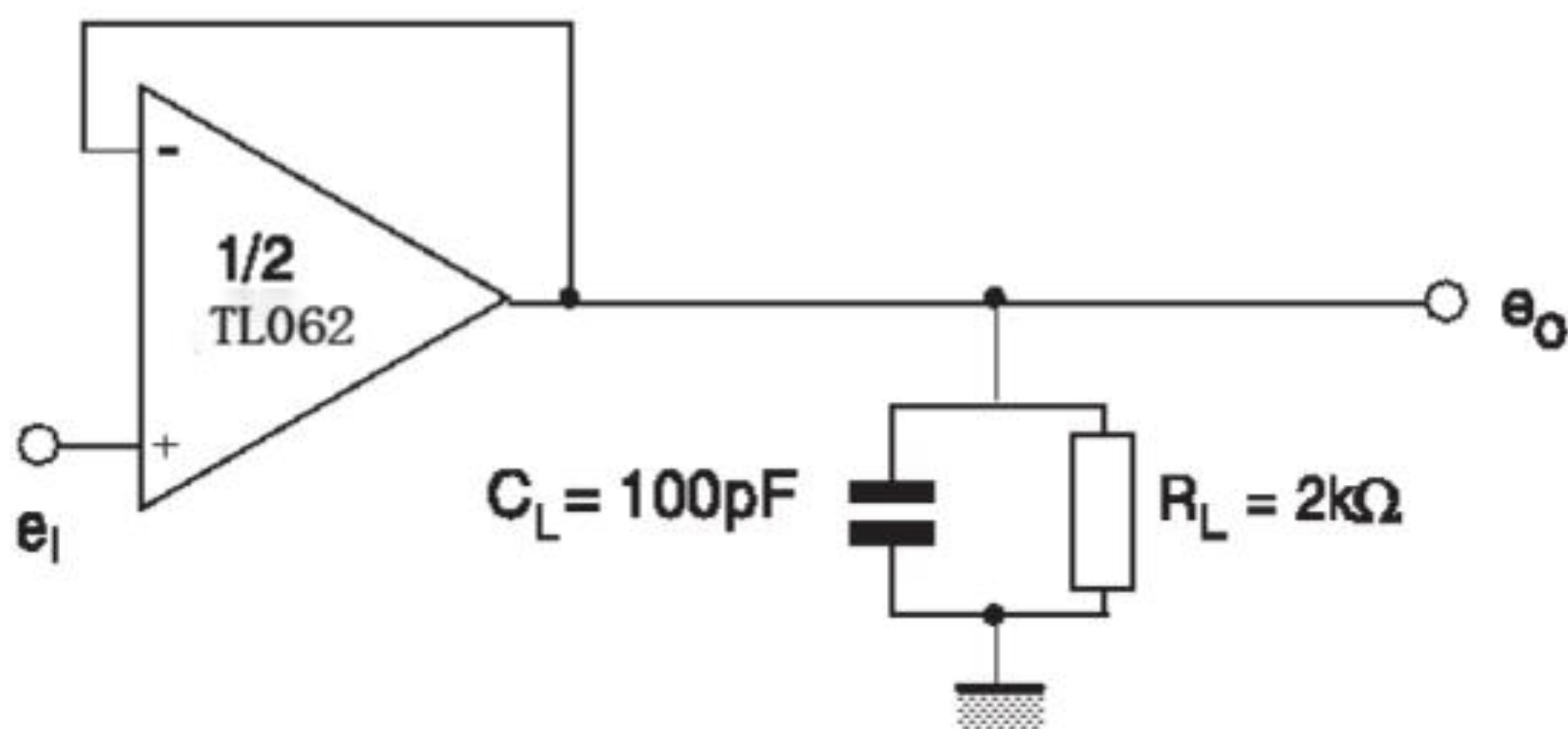


## 6) 100 kHz 的正交振荡器 100-KHz Quadrature Oscillator

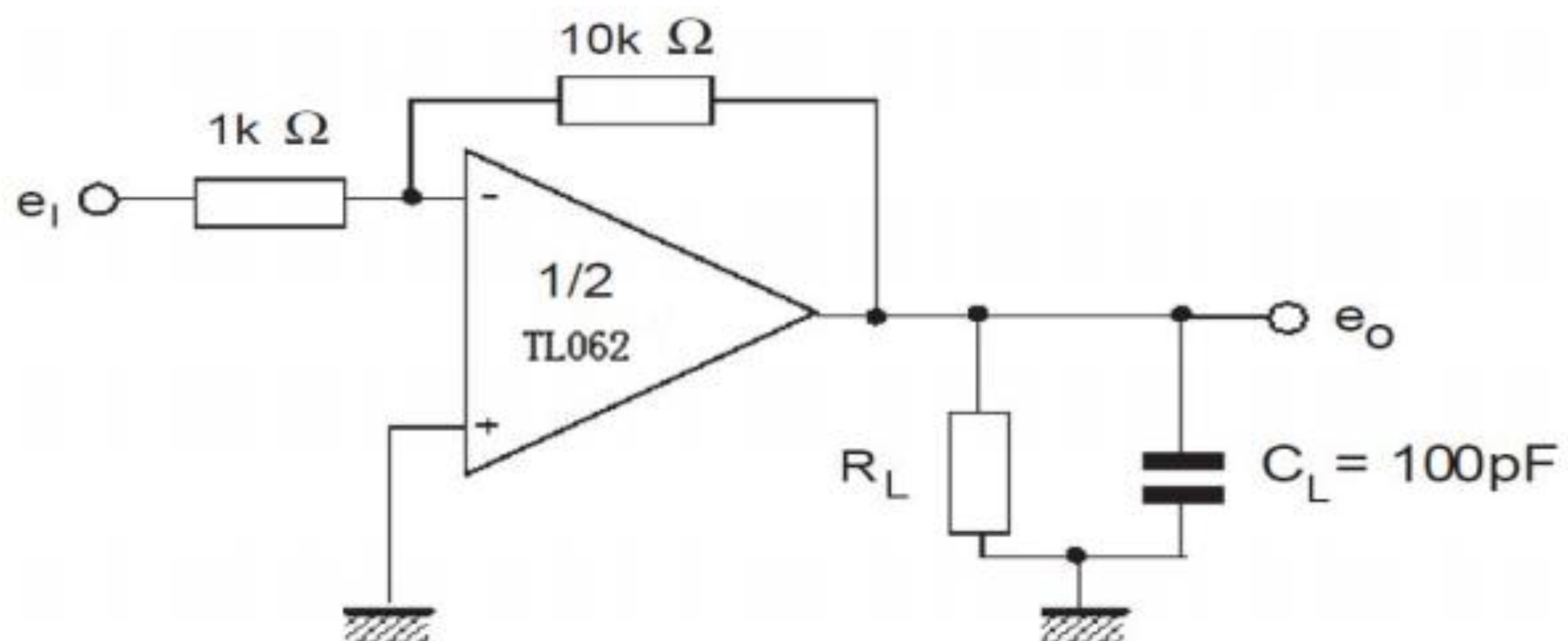


NOTE A: These resistor values may be adjusted for a symmetrical output.

## 7) 电压跟随器 Voltage Follower

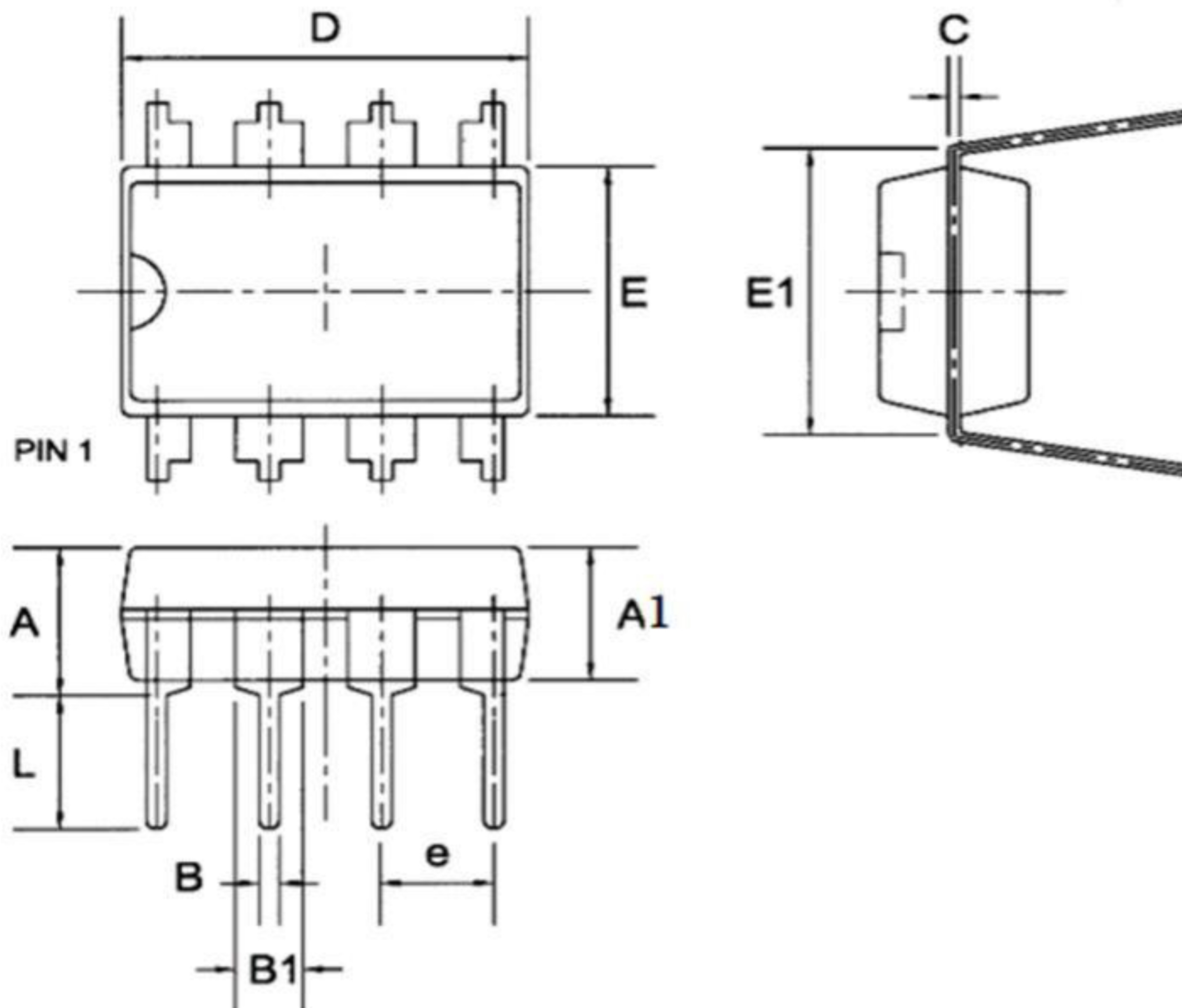


## 8) 增益为 10 反相放大器 Gain-of-10 Inverting Amplifier



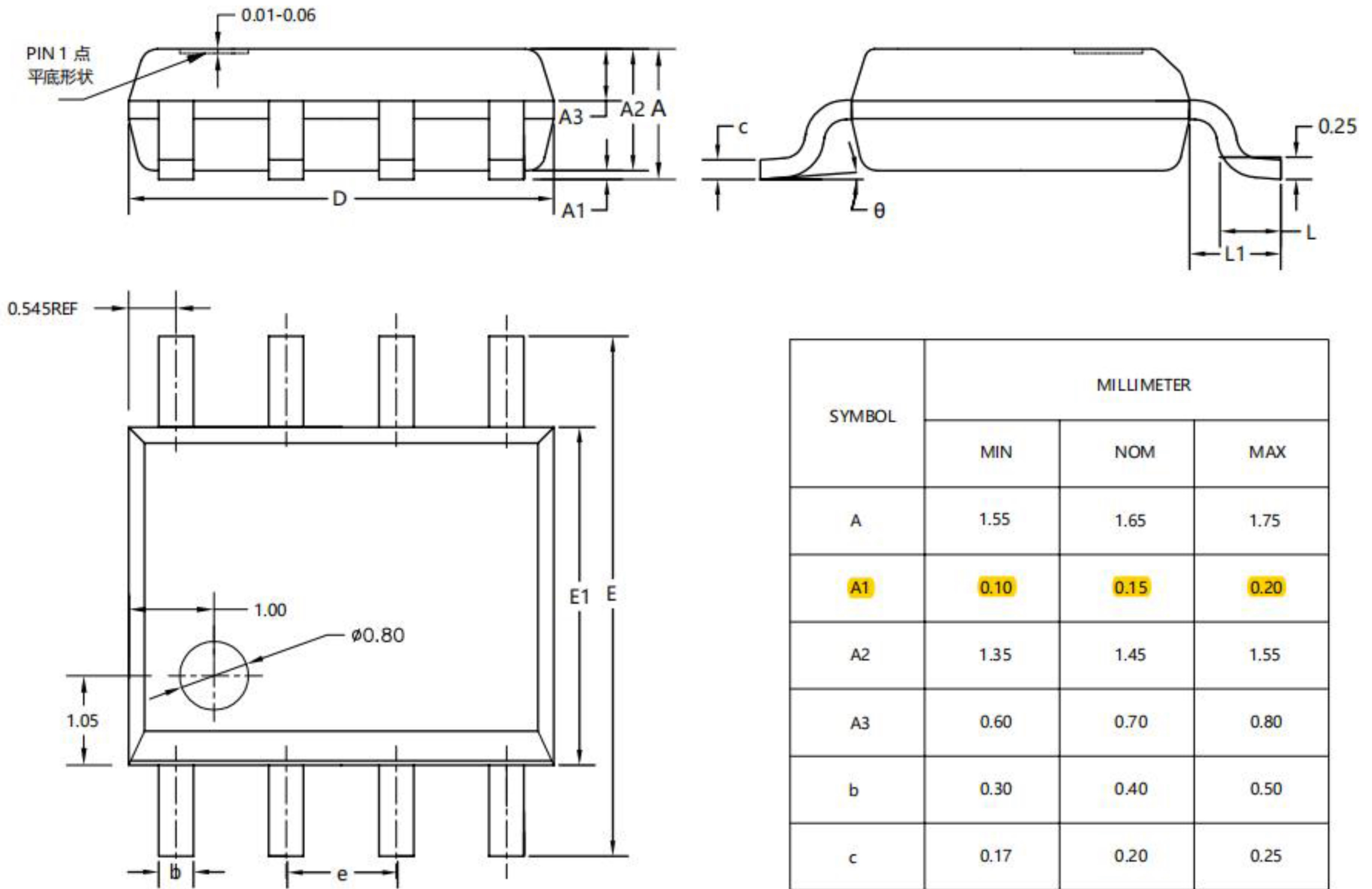
## 封装尺寸与外形图

DIP8



Symbol	Dimensions in Millimeters		
	Min	Nom	Max
A	--	--	4.31
A1	3.15	3.30	3.65
B	0.38	0.46	0.51
B1	1.27	1.55	1.77
C	0.20	0.25	0.30
D	8.95	9.40	9.45
E	6.15	6.20	6.65
E1	--	7.60	--
e	--	2.54	--
L	3.00	3.30	3.60

SOP8



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	1.55	1.65	1.75
A1	0.10	0.15	0.20
A2	1.35	1.45	1.55
A3	0.60	0.70	0.80
b	0.30	0.40	0.50
c	0.17	0.20	0.25
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.50	0.60	0.70
L1	1.05REF		
θ	0°	4°	8°