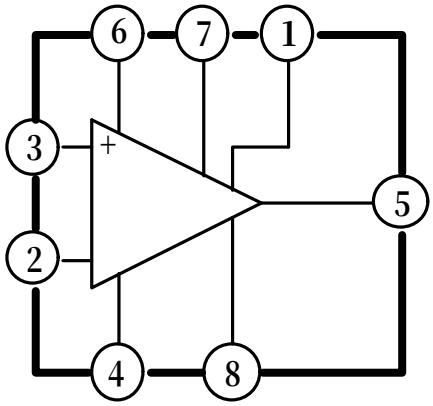
1. Features

- Wide supply voltage range: V_{CC}=3 ~16V
- Low quiescent current
- Minimum external components required
- Good ripple rejection
- No cross-over distortion
- Low power dissipation

2. Block Diagram and Pin Description

2.1 Block Diagram



2.2 Pin Description

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	COMP	Frequency Compensation	5	OUT	Output
2	NF	Negative Feedback	6	V_{CC}	Supply Voltage
3	IN	Input	7	BS	Bootstrap
4	GND	Ground	8	S_{rip}	Ripple Rejection

3. Electrical Characteristics

3.1 Absolute Maximum Ratings

Unless otherwise specified, T_{amb}= 25℃

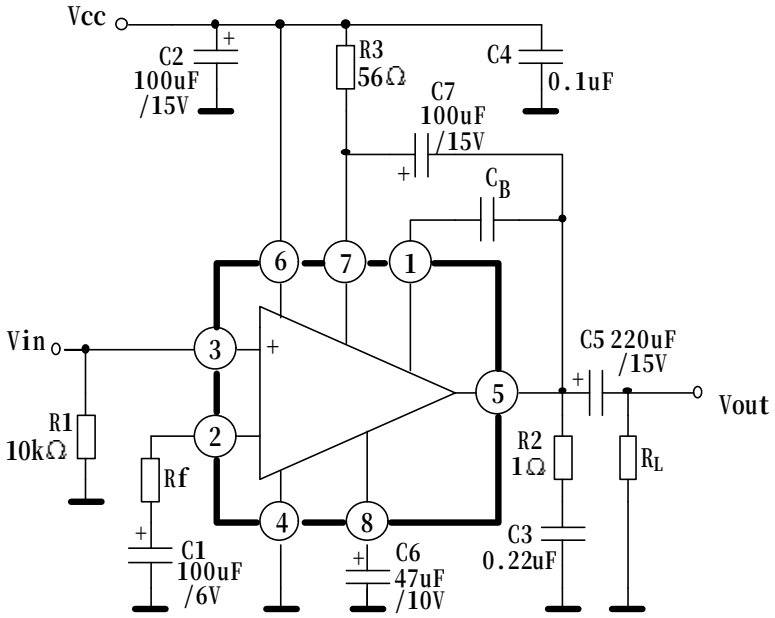
Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Output Peak Current	I_{OP}	1.5	A
Power Dissipation (T_{amb}=50℃)	P_D	1	W
Storage Temperature	T_{stg}	-40 ~ 150	℃
Junction Temperature	T_j	150	℃

3.2 Electrical Characteristics

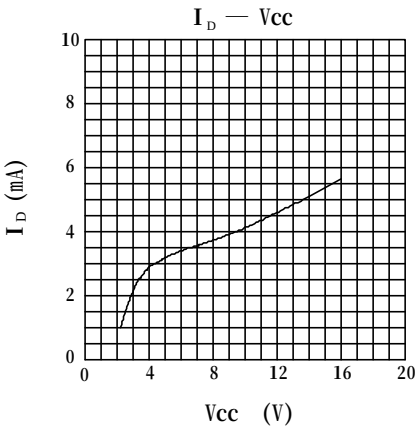
Unless otherwise specified, T_{amb}= 25℃, V_{CC}= 9V

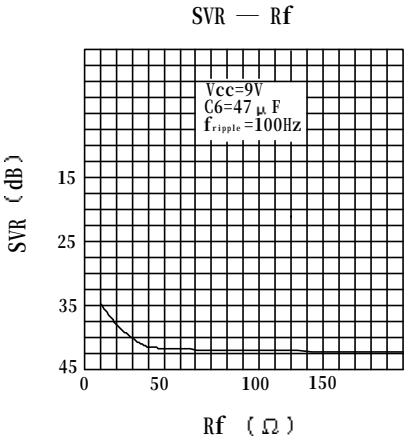
Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V_{CC}		3		16	V
Quiescent Output Voltage (pin 5)	V5		4	4.5	5	V
Quiescent Drain Current	I_{CC}			4	12	mA
Bias Current (pin 3)	I_B			0.1		uA
Output Power	P_O	THD=10%, f=1kHz, R_f=120Ω				
		V_{CC}=12V, R_L=8Ω		2		W
		V_{CC}=9V, R_L=4Ω		1.6		
		V_{CC}=9V, R_L=8Ω	0.9	1.2		
		V_{CC}=6V, R_L=4Ω		0.75		
		V_{CC}=3.5V, R_L=4Ω		0.25		
		V_{CC}=3V, R_L=4Ω		0.20		
Input Sensitivity	Vi (rms)	P_O=1.2W, R_L=8Ω, f=1kHz				mV
		R_f=33Ω		16		
		R_f=120Ω		60		
		P_O=50mV, R_L=8Ω, f=1kHz				
		R_f=33Ω		3.5		
		R_f=120Ω		12		
Input Resistance (pin 3)	R_{in}	f=1kHz		5		MΩ
Frequency Response (-3dB)	BW	R_L=8Ω, C5=10^3uF, R_f=120Ω				Hz
		C8=680pF	25~7,000			
		C8=220pF	25~20,000			
Total Harmonic Distortion	THD	P_O=50mV, R_L=8Ω, f=1kHz				%
		R_f=33Ω		0.8		
		R_f=120Ω		0.4		
Open Loop Voltage Gain	A_{VO}	f=1kHz, R_L=8Ω		75		dB
Closed Loop Voltage Gain	A_V	R_L=8Ω, f=1kHz, R_f=33Ω		45		dB
		R_L=8Ω, f=1kHz, R_f=120Ω		34		
Input Noise Voltage	V_{NI}			3		uV
Input Noise Current	I_{NI}			0.4		nA
Signal to Noise Ratio	(S+N)/ N	P_O=1.2W, R_L=8Ω, A_V=34dB				dB
		R1=10kΩ		80		
		R1=50kΩ		70		
Ripple Rejection	SVR	R_L=8Ω, f_{rip}=100Hz C6=47uF, R_f=120Ω		42		dB

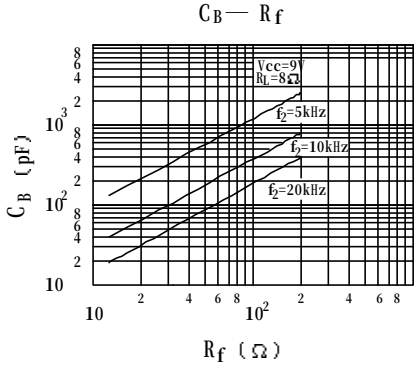
4. Test Circuit



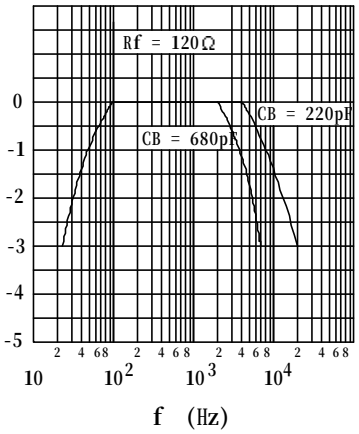
5. Characteristics Curve



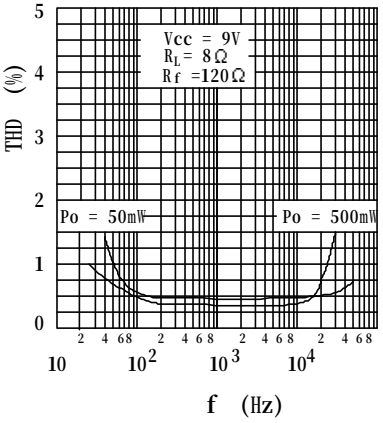




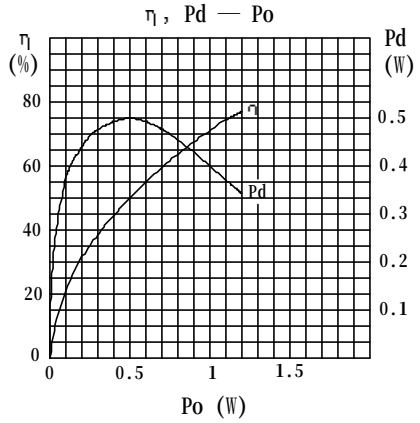
Frequency Response



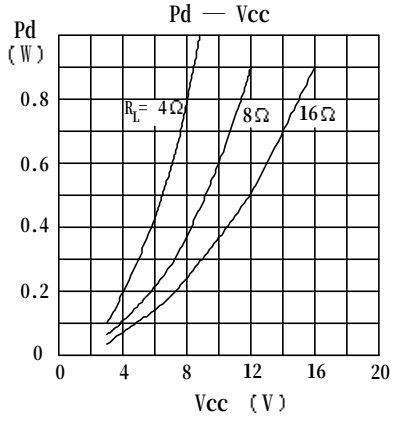
THD — f



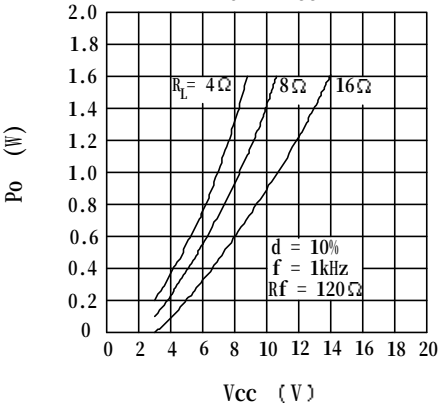
η, Pd — Po



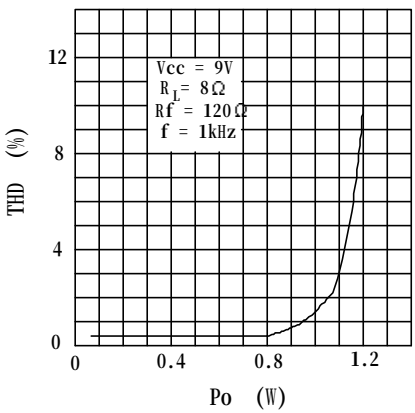
Pd — Vcc



Po — Vcc



THD — Po



6. Application Circuit

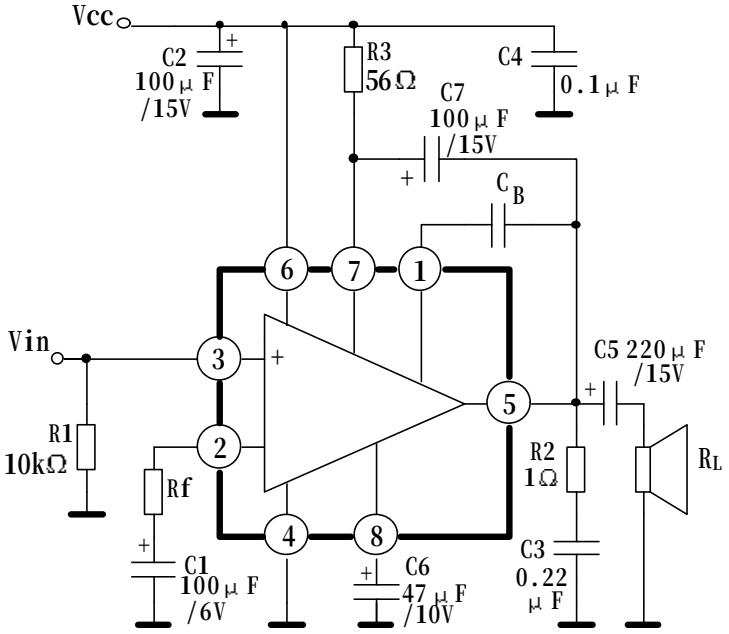


Fig 6.1

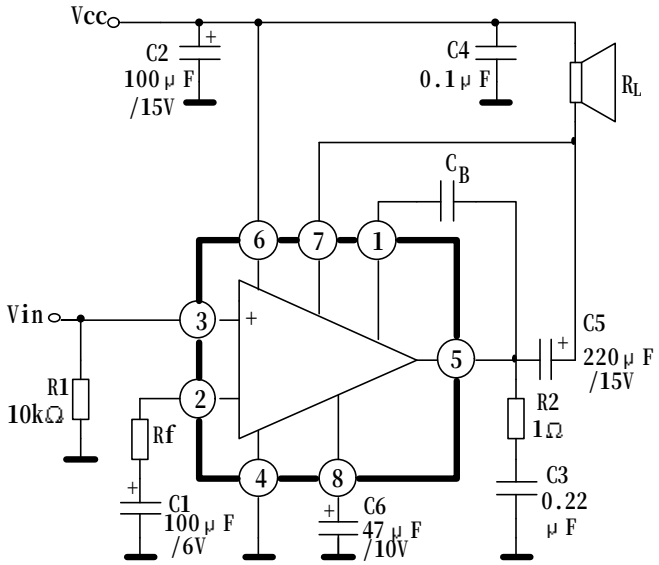


Fig 6.2

7. Package Dimensions