

YOU DA INTEGRATED CIRCUIT

YD2822

DUAL CHANNEL POWER AMPLIFIER——YD2822

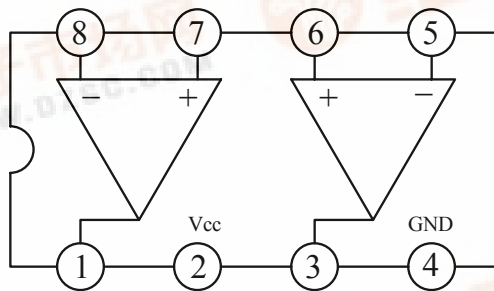
DESCRIPTION

The YD2822 is a monolithic integrated audio amplifier in a 8-pin plastic dual in line package. It is designed for portable cassette players and radios.

FEATURES

- *Wide operating supply voltage : $V_{CC}=1.8V\sim 15V$
- *Low crossover distortion
- *Low quiescent circuit current
- *Bridge/stereo configuration

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS ($T_{amb}=25^{\circ}C$)

PARAMETER		SYMBOL	VALUE	UNIT
Supply Voltage		V_{cc}	15	V
Output Peak Current		I_{op}	1.0	A
Power Dissipation	$T_{amb}=50^{\circ}C$	P_D	1.0	W
	$T_{case}=50^{\circ}C$		1.4	
Operating Temperature		T_{opr}	-20~+ 70	$^{\circ}C$
Storage Temperature		T_{stg}	-40~+150	$^{\circ}C$

WuXi YouDa Electronics Co., Ltd

Add: No.5 Xijin Road, National Hi-Tech Industrial Development Zone, Wuxi Jiangsu China

Tel: 86-510-85205117 86-510-85205106

Fax: 86-510-85205110

Website: www.e-youda.com

SHENZHEN OFFICE

Tel: 86-755-83740369

Fax: 86-755-83741418



ELECTRICAL CHARACTERISTICS

(V_{CC}=6V, T_{amb}=25°C, all voltage referenced to GND, Unless otherwise specified)

STEREO APPLICATION

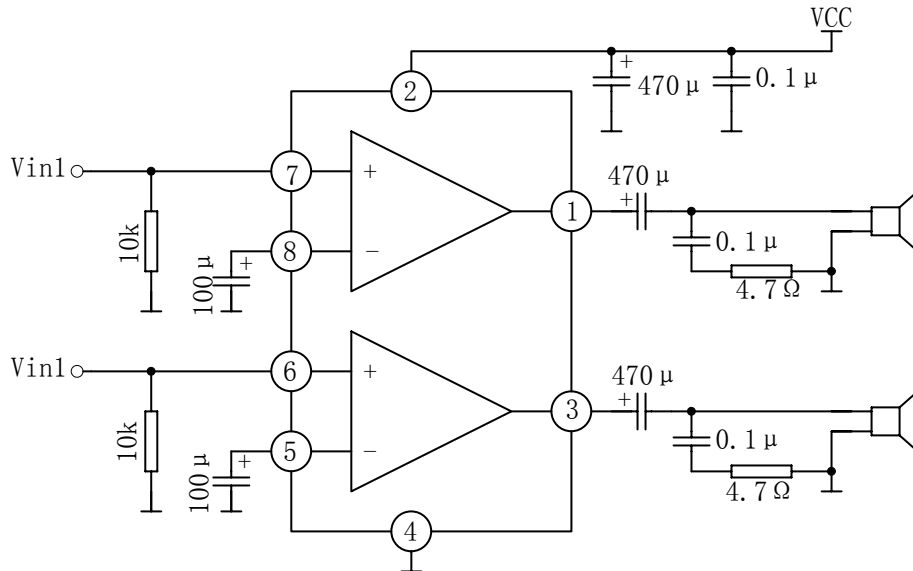
PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT		
Operating Supply Voltage	V _{CC}			1.8		15	V		
Quiescent Circuit Output Voltage	V _O				2.7		V		
		V _{CC} =3V			1.2		V		
Input Bias Current	I _B				100		nA		
Quiescent Circuit Current	I _{CCQ}				6	9	mA		
Output Power	P _O	f=1kHz THD=10%	R _L =32Ω	V _{CC} =9V		300		mW	
				V _{CC} =6V	90	120			
				V _{CC} =4.5V		60			
				V _{CC} =3V	15	20			
				V _{CC} =2V		5			
			R _L =16Ω	V _{CC} =6V	170	220			
				R _L =8Ω	V _{CC} =9V		1000		
					V _{CC} =6V	300	380		
			R _L =4Ω	V _{CC} =6V	450	650			
				V _{CC} =3V		110			
Total Harmonic Distortion	THD	R _L =32Ω, P _O =40mW			0.2		%		
		R _L =16Ω, P _O =75mW			0.2				
		R _L =8Ω, P _O =150mW			0.2				
Closed Loop Voltage Gain	G _V	f=1kHz		37	39	41	dB		
Channel Balance	ΔG _V					±1	dB		
Input Resistance	Z _i	f=1kHz		100			kΩ		
Input Noise Voltage	V _{NI}	R _g =10kΩ BPF=20Hz~20kHz			2.5		μV		
Ripple Rejection	RR	f=100Hz C ₁ =C ₂ =100μF		24	30		dB		
Cross Talk	CT	f=1kHz			30		dB		

BTL APPLICATION

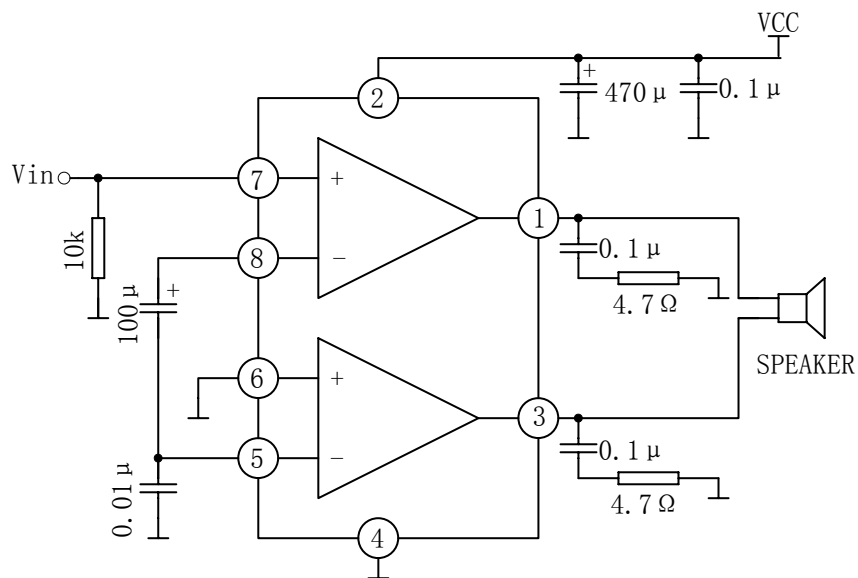
PARAMETER	SYMBOL	TEST CONDITIONS		NIN	TYP	MAX	UNIT	
Operating Supply Voltage	V_{CC}			1.8		15	V	
Quiescent Circuit Current	I_{ccq}	$R_L = \infty$			6	9	mW	
DC Output Balance	ΔV_O	$R_L = 8 \Omega$				± 50	mW	
Input Bias Current	I_B				100		nA	
Output Power	P_o	$f=1\text{kHz}$ THD =10%	$R_L = 32 \Omega$	$V_{CC}=9\text{V}$		1000		mW
				$V_{CC}=6\text{V}$	300	320		
				$V_{CC}=4.5\text{V}$		200		
				$V_{CC}=3\text{V}$	50	65		
				$V_{CC}=2\text{V}$		8		
			$R_L = 16 \Omega$	$V_{CC}=9\text{V}$		2000		
				$V_{CC}=6\text{V}$				
				$V_{CC}=3\text{V}$		120		
			$R_L = 8 \Omega$	$V_{CC}=6\text{V}$	900	1350		
				$V_{CC}=4.4\text{V}$		700		
				$V_{CC}=3\text{V}$		220		
			$R_L = 4 \Omega$	$V_{CC}=4.5\text{V}$		1000		
$V_{CC}=3\text{V}$	200	350						
$V_{CC}=2\text{V}$		80						
Total Harmonic Distortion	THD	$P_o=0.5\text{W}, R_L=8 \Omega, f=1\text{kHz}$			0.2		%	
Closed Loop Voltage Gain	G_V	$f=1\text{kHz}$		37	39	41	dB	
Input Resistance	Z_i	$f=1\text{kHz}$		100			k Ω	
Input Noise Voltage	V_{N1}	$R_g=10\text{k} \Omega$ BPF=20Hz~20kHz			3		μ V	
Ripple Rejection	RR	$f=100\text{Hz}$			40		dB	
Power Bandwidth	BW	$R_L=8 \Omega, P_o=1\text{W}$			120		kHz	

APPLICATION CIRCUIT

(1) YD2822 STEREO APPLICATION



(2) YD2822 BTL APPLICATION



OUTLINE DRAWING

DIP-8

unit:mm

