

20W HI-FI AUDIO AMPLIFIER—YD2030A

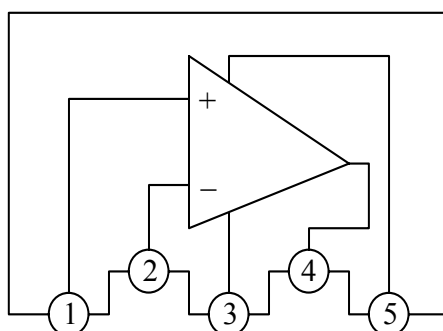
DESCRIPTION

The YD2030A is a monolithic audio power amplifier integrated circuit.

FEATURES

- *Very low external component required.
- *High Current output and high operating voltage.
- *Low harmonic and crossover distortion.
- *Built-in Over temperature protection.
- *Short circuit protection between all pins.
- *Safety Operating Area for output transistors.

BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS (Tamb=25)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc/V _{EE}	± 23	V
Input Voltage	V _i	Vcc/-V _{EE}	
Differential Input Voltage	V _{di}	± 15	V
Peak Output Current (internally limited)	I _O	3.5	A
Power Dissipation at Tcse=90	P _D	20	W
Junction Temperature	T _{stg}	-40 ~ +150	

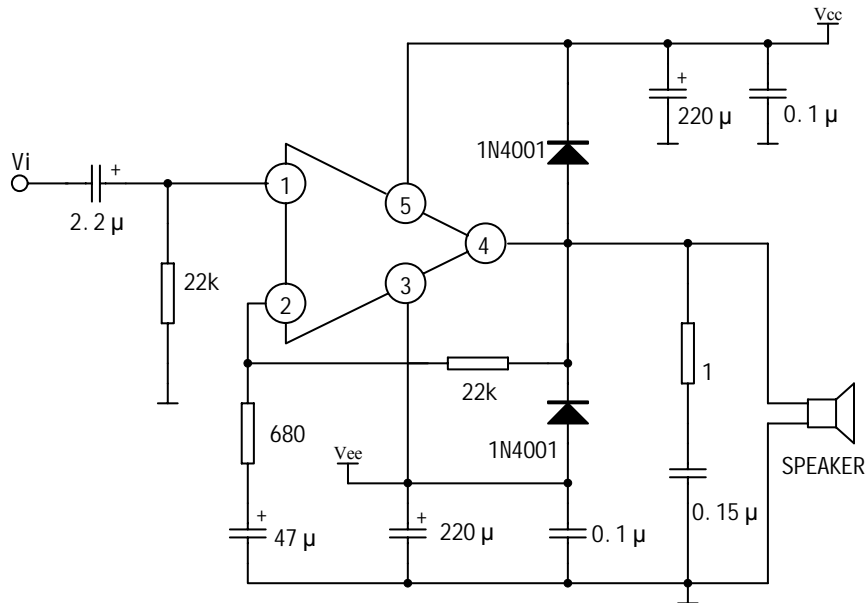
ELECTRICAL CHARACTERISTICS

(Vcc/V_{EE}= ± 14V, Tamb=25 , unless otherwise specified)

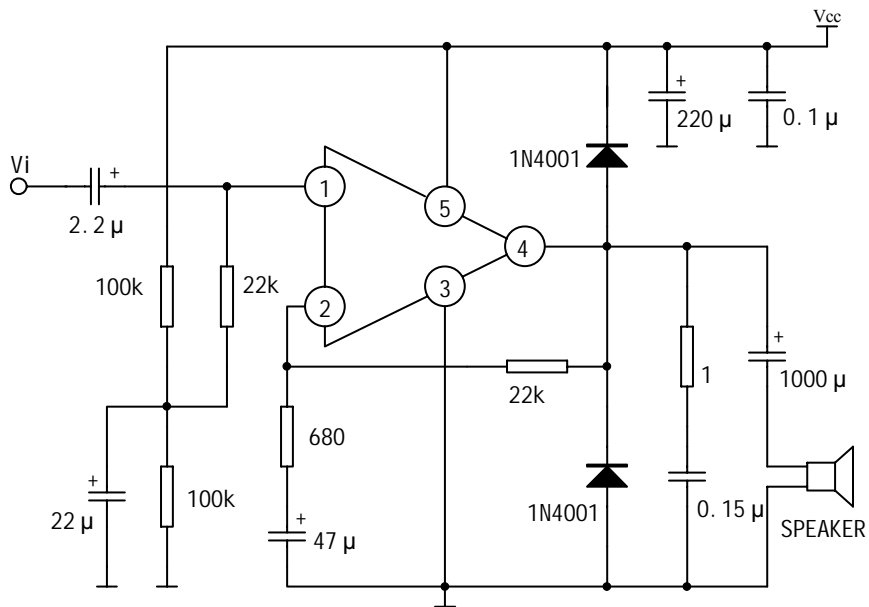
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Supply Voltage	Vcc/V _{EE}		± 6		± 22	V	
Quiescent Drain Current	Iccq			40	60	mA	
Input Bias Current	Iib	Vcc/V _{EE} = ± 22V		0.2	2	μ A	
Input Offset Voltage	V _{is}			± 2	± 20	mV	
Input Offset Current	I _{is}			± 20	± 200	nA	
Output Power	P _o	THD=1.0%, G _v =26dB, f=40 to 15kHz					W
		R _L =4Ω	21	23			
		R _L =8Ω		13			
		THD=10%, G _v =26dB, f=40 to 15kHz					W
R _L =4Ω		30					
R _L =8Ω		17					
Power Bandwidth	BW	P _o =15W, R _L =4Ω	10 ~ 140,000			Hz	
Open Loop Voltage Gain	G _{VO}	f=1kHz		90		dB	
Close Loop Voltage Gain	G _v	f=1kHz	29.5	30	30.5	dB	
Total Harmonic Distortion	THD	P _o =0.1~12W, R _L =4Ω f=40Hz ~15kHz		0.2	0.5	%	
		P _o =0.1~8W, R _L =8Ω f=40Hz ~15kHz		0.1	0.5		
Input Noise Voltage	V _{NI}	B=22Hz~22kHz		3	10	μV	
Input Noise Current	I _{NI}	B=22Hz~22kHz		80	200	pA	
Input Resistance(pin1)	Z _i	Open Loop, f=1kHz	0.5	5		MΩ	
Supply Voltage Rejection	RR	R _L =4Ω, R _g =22kΩ G _v =30dB, f=1kHz	40	50		dB	
Thermal Shut-Down Junction Temperature	T _j			145			

APPLICATION CIRCUIT

(1) YD2030A DUAL SUPPLY POWER APPLICATION



(2) YD2030A SINGLE SUPPLY POWER APPLICATION



OUTLINE DRAWING

