

## 18W HI-FI AUDIO AMPLIFIER—YD2030

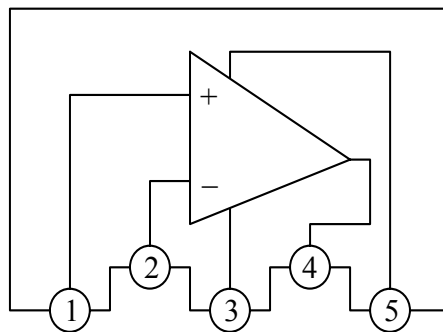
### DESCRIPTION

The YD2030 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°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V <sub>CC</sub> /V <sub>EE</sub>	±22	V
Peak Output Current (internally limited)	I <sub>op</sub>	3.5	A
Total Power Dissipation at T <sub>case</sub> =90°C	P <sub>D</sub>	20	W
Ambient operating temperature	T <sub>opr</sub>	-20~+75	°C
Storage Temperature	T <sub>stg</sub>	-40~+150	°C

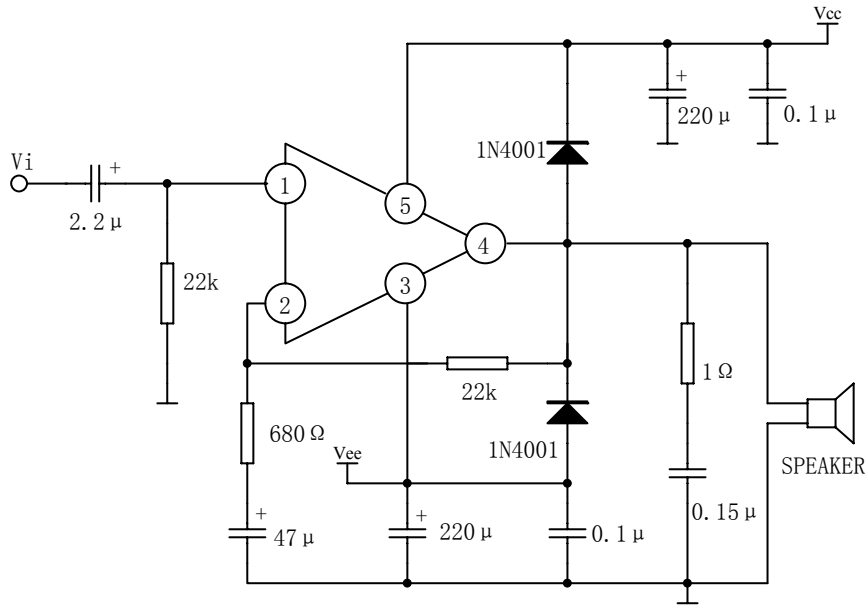
**ELECTRICAL CHARACTERISTICS**

(Refer to the test circuit , V<sub>CC</sub>/V<sub>EE</sub>=±14V, f=1kHz, Tamb=25°C)

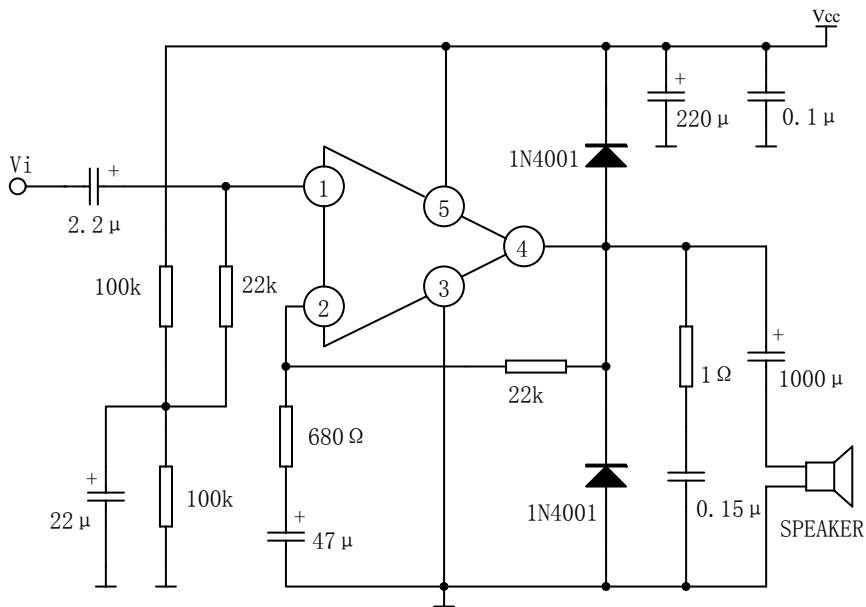
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V <sub>CC</sub> /V <sub>EE</sub>		±6		±22	V
Quiescent Drain Current	I <sub>ccq</sub>			40	60	mA
Input Bias Current	I <sub>ib</sub>	V <sub>CC</sub> /V <sub>EE</sub> = ±22V		0.2	2	μA
Input Offset Voltage	V <sub>is</sub>			±2	±20	mV
Input Offset Current	I <sub>is</sub>			±20	±200	nA
Output Power	P <sub>o</sub>	R <sub>L</sub> =4Ω,	THD=0.5%,	12	14	W
			THD=10%,		18	W
		R <sub>L</sub> =8Ω	THD=0.5%,	8	9	W
			THD=10%,		11	W
Power Bandwidth	BW	P <sub>o</sub> =15W, R <sub>L</sub> =4Ω	10		140k	Hz
Open Loop Voltage Gain	G <sub>VO</sub>			90		dB
Close Loop Voltage Gain	G <sub>v</sub>		29.5	30	30.5	dB
Total Harmonic Distortion	THD	P <sub>o</sub> =0.1~12W, R <sub>L</sub> =4Ω f=40Hz~15kHz		0.2	0.5	%
		P <sub>o</sub> =0.1~8W, R <sub>L</sub> =8Ω f=40Hz~15kHz		0.1	0.5	
Input Noise Voltage	V <sub>NI</sub>	B=22Hz~22kHz		3	10	μV
Input Noise Current	I <sub>NI</sub>	B=22Hz~22kHz		80	200	pA
Input Resistance(pin1)	Z <sub>i</sub>	Open Loop,	0.5	5		MΩ
Supply Voltage Rejection	RR	R <sub>L</sub> =4Ω, R <sub>g</sub> =22kΩ f=100Hz, G <sub>v</sub> =30dB,	40	50		dB
Thermal Shut-Down Junction Temperature	T <sub>j</sub>			145		°C

APPLICATION CIRCUIT

(1) YD2030 DUAL SUPPLY POWER APPLICATION



(2) YD2030 SINGLE SUPPLY POWER APPLICATION



OUTLINE DRAWING

Unit: inch / mm

