

10W AUDIO AMPLIFIER—YD1022

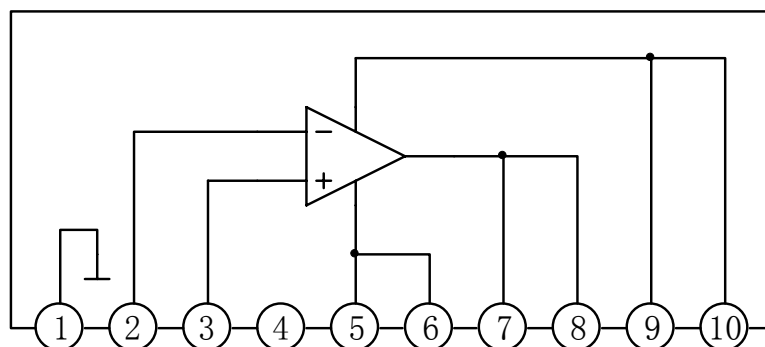
DESCRIPTION

The YD2030 is a monolithic audio power amplifier integrated circuit.

FEATURES

- *Operation supply voltage range: $V_{cc}=8V\sim 18V$
- *High Power: $P_o=10W$ ($V_{cc}=16.5V$, $R_L=2\Omega$, $f=1kHz$, $THD=10\%$)
 $P_o=6W$ ($V_{cc}=16.5V$, $R_L=4\Omega$, $f=1kHz$, $THD=10\%$)
- *Low popping noise at power ON.

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
DC Supply Voltage	V_{cc}	28	V
Operating Supply Voltage	V_{cc}	18	V
Output Peak Current(repetitive)	I_o	3.5	A
Power Dissipation at Tcase=90°C	P_{tot}	20	W
Storage And Junction Temperature	T_{stg}	-40~+150	°C

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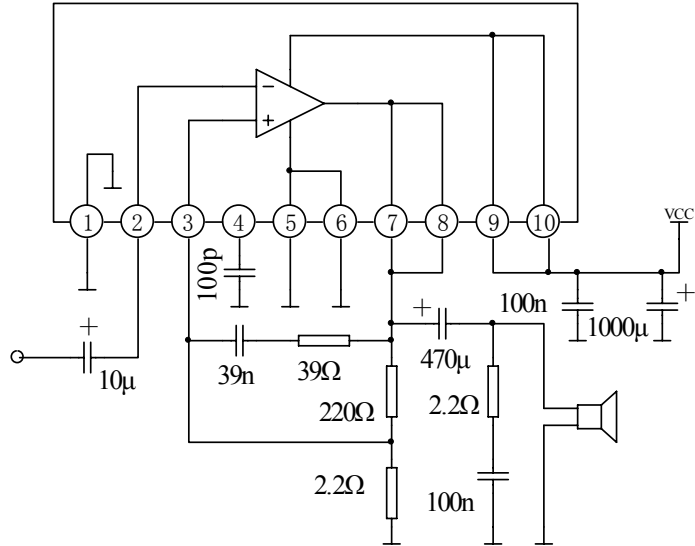
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ELECTRICAL CHARACTERISTICS

(Tamb=25°C, V=16.5V, f=1kHz, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	NIN	TYP	MAX	UNIT
Supply Voltage	Vcc		8		18	V
Quiescent Output Voltage	Vo		6.1	6.9	7.7	V
Quiescent Drain Current	Iccq			44	50	mA
Output Power	Po	THD=10%, RL=4 Ω	5.5	6		W
		THD=10%, RL=2 Ω	9	10		
Input Sensitivity	Vi	Po=0.5W, RL=4 Ω		14		mV
		Po=6W, RL=4 Ω		55		
Input Saturation Voltage	Vim			300		mV
Frequency Response	BW	Po=1W, RL=4 Ω	40 to 15000			Hz
Distortion	THD	Po=0.05~4.5W, RL=4 Ω		0.15		%
		Po=0.05~7.5W, RL=2 Ω		0.15		%
Input Resistance (pin 1)	Zi	f=1kHz	70	150		K Ω
Input Noise Current	INI			60	200	pA
Input Noise Voltage	VNI			1	5	μ V
Voltage Gain (Open Loop)	Gvo	f=1kHz		80		dB
		f=10kHz		60		dB
Voltage Gain (closed Loop)	Gv	RL=4 Ω	39.3	40	40.3	dB
Efficiency	η	Po=6W, RL=4 Ω		69		%
Supply Voltage Rejection	SVR	f=100kHz, Vr=0.5V Rg=10k Ω, RL=4 Ω	30	36		dB

APPLICATION CIRCUIT



OUTLINE DRAWING

