

1.3W STEREO AUDIO AMPLIFIER——YD2025D

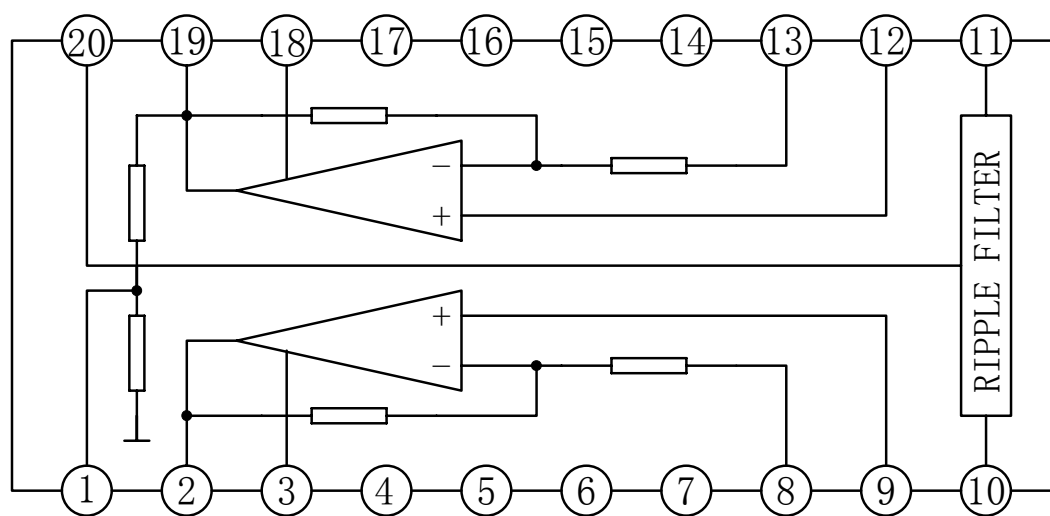
DESCRIPTION

The YD2025D is a monolithic integrated audio Amplifier in a SOP20. It is designed for portable cassette players and radios.

FEATURES

- *Working voltage down to 3V;
- *Few external components;
- *High channel isolation;
- *Voltage gain up to 45dB (Adjustable with external resistor);
- *Soft clipping;
- *Internal thermal protection;

BLOCK DIAGRAM



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

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

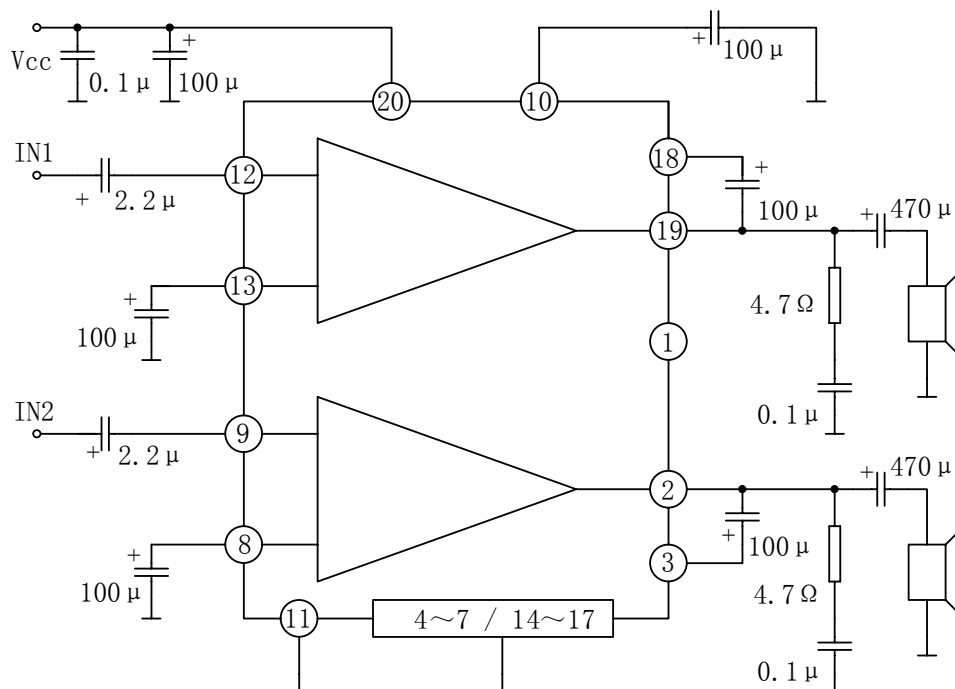
PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{cc}	15	V
Output Peak Current	I_o	1.5	A
Power Dissipation (No Heat Sink)	P_D	1.0	W
Ambient operating temperature range	T_{opr}	$-20\sim+75$	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	$-40\sim+150$	$^{\circ}\text{C}$

Electrical CHARACTERISTICS($T_{amb}=20^{\circ}\text{C}$, $V_{cc}=9\text{V}$, $f=1\text{kHz}$, Stereo, Unless otherwise specified)

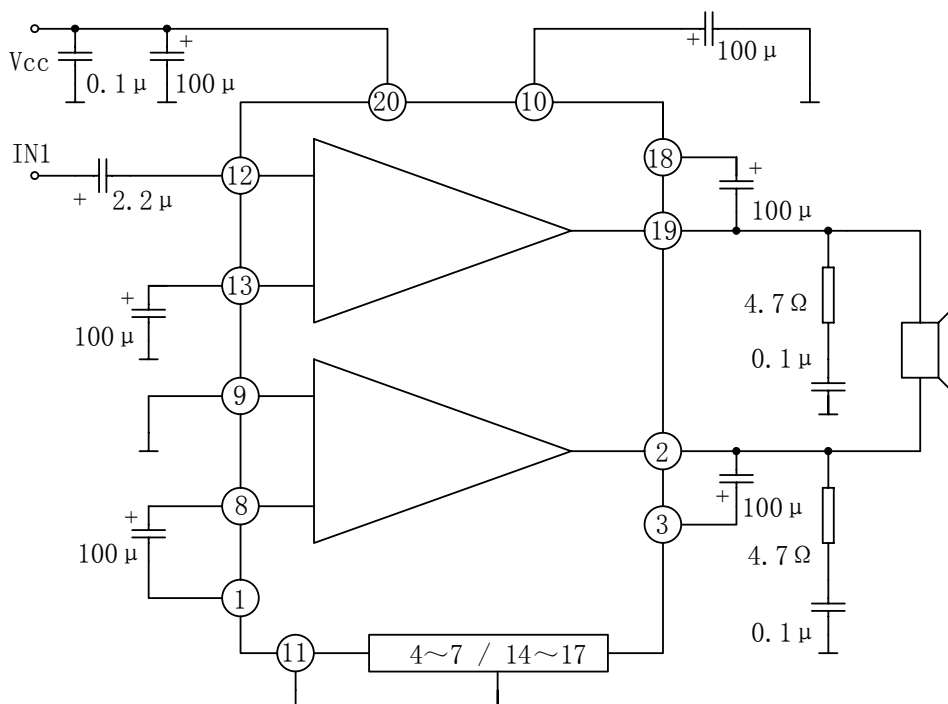
PARAMETER	SYMBOL	TEST CONDITIONS	NIN	TYP	MAX	UNIT
Supply Voltage	V_{cc}		3		9	V
Quiescent Current	I_{ccq}			40	50	mA
Quiescent Output Voltage	V_o			4.5		V
Voltage Gain	G_v	Stereo	43	45	47	dB
		Bridge	49	51	53	
Voltage Gain Difference	ΔG_v				± 1	dB
Input Impedance	Z_i			30		k Ω
Output Power (STEREO)	P_o (THD=10%)	$V_{cc}=9\text{V}$, $R_L=8\Omega$		1.3		W
		$V_{cc}=6\text{V}$, $R_L=4\Omega$	0.7	1		W
		$V_{cc}=6\text{V}$, $R_L=8\Omega$		0.6		W
		$V_{cc}=3\text{V}$, $R_L=4\Omega$		0.1		W
Output Power (BTL)		$V_{cc}=6\text{V}$, $R_L=8\Omega$		1.5		W
Distortion	THD	Stereo, $R_L=8\Omega$, $P_o=250\text{mW}$		0.3	1.5	%
		BTL, $R_L=8\Omega$, $P_o=250\text{mW}$		0.5		%
Supply Voltage Rejection	RR	$R_g=0$, $G_v=45\text{dB}$, $V_r=150\text{mV}$, $f=100\text{Hz}$	40	46		dB
Input Noise Voltage	V_{NI}	$G_v=45\text{dB}$, BPF=20Hz $\sim 20\text{kHz}$	$R_g=0$	1.5	3	μV
			$R_g=10\text{k}\Omega$	3	6	μV
Cross-Talk	CT	$R_g=10\text{k}\Omega$, $f=1\text{kHz}$, $R_L=8\Omega$, $P_o=0.5\text{W}$	40	55		dB

APPLICATION CIRCUIT

(1) YD2025D TYPE APPLICATION



(2) YD2025D BTL APPLICATION



OUTLINE DRAWING

SO20 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			2.65			0.104
a1	0.1		0.3	0.004		0.012
a2			2.45			0.096
b	0.35		0.49	0.014		0.019
b1	0.23		0.32	0.009		0.013
C		0.5			0.020	
c1	45 (typ.)					
D	12.6		13.0	0.496		0.512
E	10		10.65	0.394		0.419
e		1.27			0.050	
e3		11.43			0.450	
F	7.4		7.6	0.291		0.299
L	0.5		1.27	0.020		0.050
M			0.75			0.030
S	8 (max.)					

