

## LOW FREQUENCY POWER AMPLIFIER—YD8227

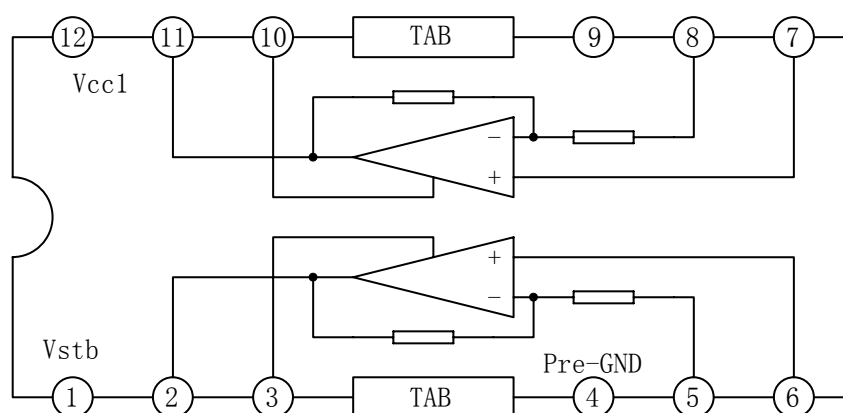
### DESCRIPTION

The YD8227P is the audio power amplifier with built-in two channels developed for portable radio cassette tape recorder with power ON/OFF switch.

### FUNCTIONS

- \*Wide operating supply voltage:  $V_{cc}=5\sim 12V$ ;
- \*Low quiescent supply current ( $I_{cc}=21mA$ , typical, at  $V_{cc}=9V$ ,  $V_i=0$ );
- \*Output power:  $P_o=2.50W/CH$  at  $V_{cc}=9V$ ,  $R_L=4\Omega$ ,  $f=1kHz$ ,  $THD=10\%$ ;
- \*Soft clip;
- \*Built-in Thermal shut-down protection circuit;
- \*Stand-by switch.

### BLOCK DIAGRAM



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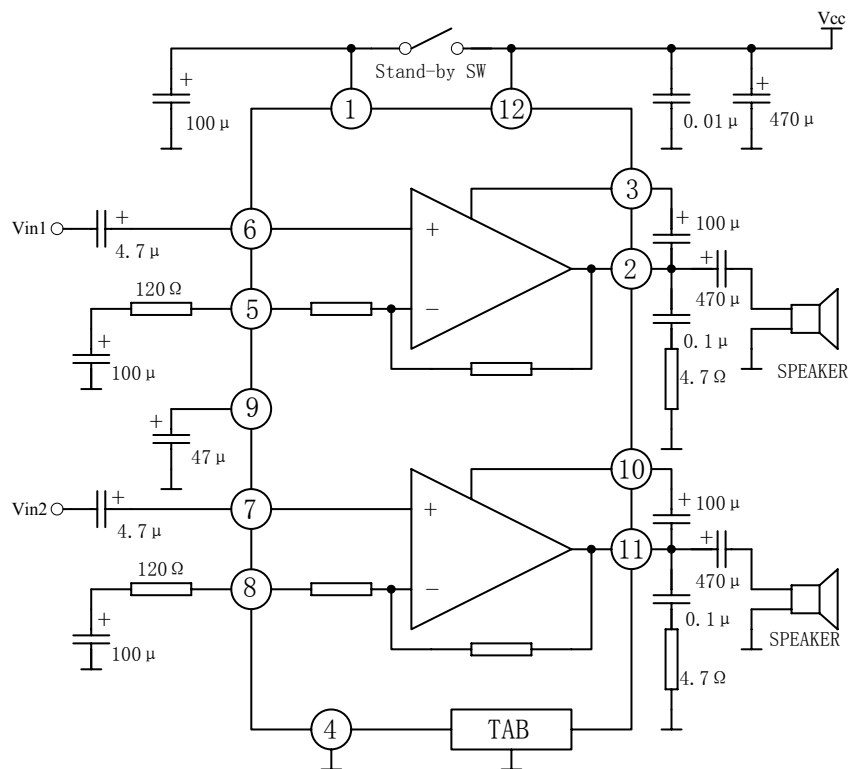
**ABSOLUTE MAXIMUM RATINGS**( $T_{amb}=25^{\circ}\text{C}$ )

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	$V_{CC}$	20	V
Output Peak Current	$I_{op}$	2.5	A
Power Dissipation (80*60*1.2mm <sup>3</sup> PCB)	$P_D$	4.0	W
Operating Temperature	$T_{opr}$	-25 to +75	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

**ELECTRICAL CHARATERISTICS**(V<sub>CC</sub>=9V, R<sub>g</sub>=600  $\Omega$ , f=1kHz, T<sub>amb</sub>=25 $^{\circ}\text{C}$ , all voltage referenced to GND unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current	$I_{ccq}$	$V_{in}=0$		21	45	mA
Output Power	$P_o$	THD=10%, $R_L=4\ \Omega$	2.0	2.5		W
		THD=10%, $R_L=3\ \Omega$		3.0		
Total Harmonic Distortion	THD	$P_o=0.4\text{W/CH}$		0.2	1.0	%
Voltage Gain	$G_v$	$R_f=120\ \Omega$ $V_o=0.775\text{V}$	43	45	47	dB
		$R_f=0\ \Omega$ $V_o=0.775\text{V}$		56.5		
Input Resistance	$Z_i$	f=1kHz		30		k $\Omega$
Output Noise Voltage	$V_{N0}$	$R_g=10\text{k}\ \Omega$ BPF=20Hz~20KHz		0.3	1.0	mV
Ripple Rejection Ratio	RR	f=100Hz $R_g=600\ \Omega$		52		dB
Cross Talk	CT	$V_o=0.775\text{V}$		50		dB
Input Offset Voltage	$V_{7-8}$			30	60	mV
Standby Current	$I_{SBY}$			1		$\mu\text{A}$

APPLICATION CIRCUIT



## OUTLINE DRAWING

**12-DIPH-300**