

LOW FREQUENCY POWER AMPLIFIER—YD8227

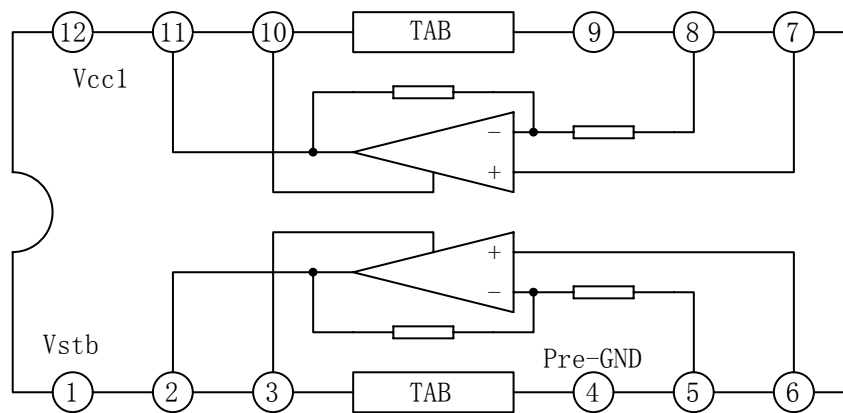
DESCRIPTION

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($T_{amb}=25^{\circ}C$)

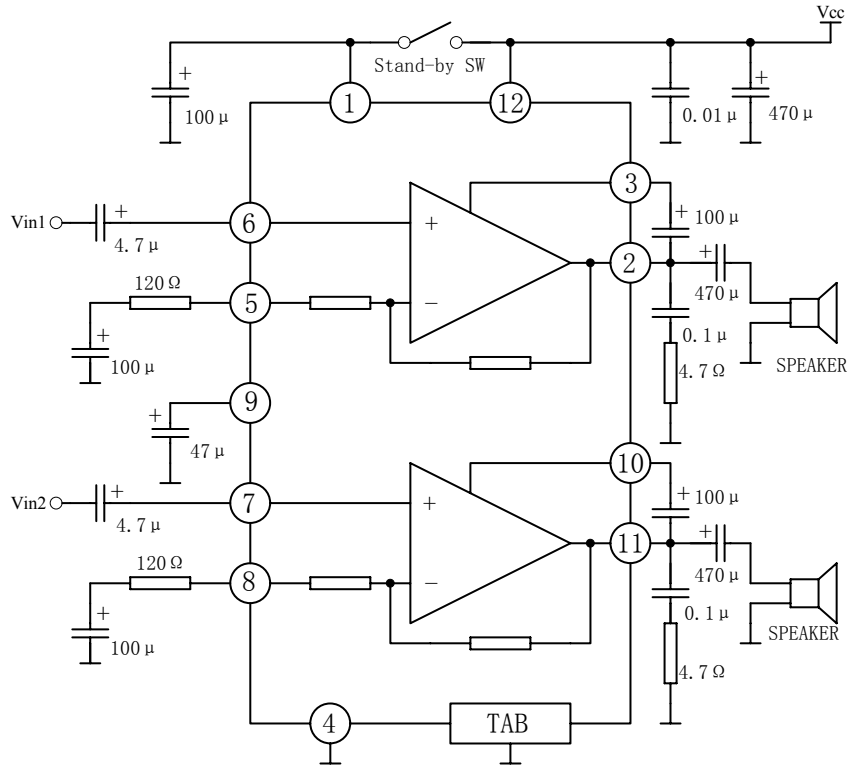
| PARAMETER | SYMBOL | VALUE | UNIT |
|---|-----------|-------------|-------------|
| Supply Voltage | V_{CC} | 20 | V |
| Output Peak Current | I_{op} | 2.5 | A |
| Power Dissipation ($80*60*1.2mm^3$ PCB) | P_D | 4.0 | W |
| Operating Temperature | T_{opr} | -25 to +75 | $^{\circ}C$ |
| Storage Temperature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

ELECTRICAL CHARATERISTICS

($V_{CC}=9V$, $R_g=600\ \Omega$, $f=1kHz$, $T_{amb}=25^{\circ}C$, 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 | $P_o=0.4W/CH$ | | 0.2 | 1.0 | % |
| Voltage Gain | G_v | $R_f=120\ \Omega$ $V_o=0.775V$ | 43 | 45 | 47 | dB |
| | | $R_f=0\ \Omega$ $V_o=0.775V$ | | 56.5 | | |
| Input Resistance | Z_i | $f=1kHz$ | | 30 | | k Ω |
| Output Noise Voltage | V_{N0} | $R_g=10k\ \Omega$ BPF=20Hz~20KHz | | 0.3 | 1.0 | mV |
| Ripple Rejection Ratio | RR | $f=100Hz$ $R_g=600\ \Omega$ | | 52 | | dB |
| Cross Talk | CT | $V_o=0.775V$ | | 50 | | dB |
| Input Offset Voltage | V_{7-8} | | | 30 | 60 | mV |
| Standby Current | I_{SBY} | | | 1 | | μA |

APPLICATION CIRCUIT



OUTLINE DRAWING

12-DIPH-300

