



## PA5417

## LINEAR INTEGRATED CIRCUIT

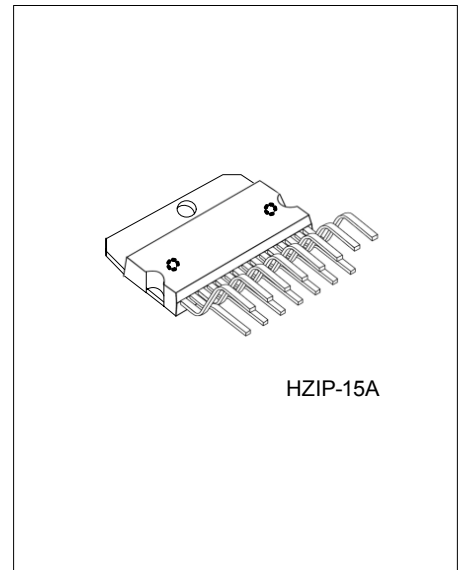
### HIGH-OUTPUT DUAL POWER AMPLIFIER

#### DESCRIPTION

The UTC **PA5417** is a dual power amplifier of 6~15V-compatible for radio cassette/Mini compo players use. It is developed to equip with standby switching functions for excellent total harmonic distortion and other basic characteristics.

#### FEATURES

- \* Operating power supply voltage range from 6V to 15V.
- \* High output.
  - $P_{OUT} = 2.8W$  ( $V_{CC} = 9V, R_L = 3\Omega, THD = 10\%$ )
  - $P_{OUT} = 5.0W$  ( $V_{CC} = 12V, R_L = 3\Omega, THD = 10\%$ )
- \* Excellent audio quality
  - $THD = 0.1\%$  ( $f = 1kHz, P_{OUT} = 0.5W$ )
  - $eN = 0.3mV_{rms}$  ( $R_g = 10k\Omega$ )
  - $RR = 55dB$  ( $f_{RR} = 100Hz$ )
- \* Switching noise ("pop" noise) generated when the power is switched on and off is small.
- \* Ripple mixing when motor starts has been prevented.
- \* Built-in thermal shutdown circuit.
- \* Built-in standby switch that output is not influenced.
- \* Soft clipping.



HZIP-15A

\*Pb-free plating product number: PA5417L

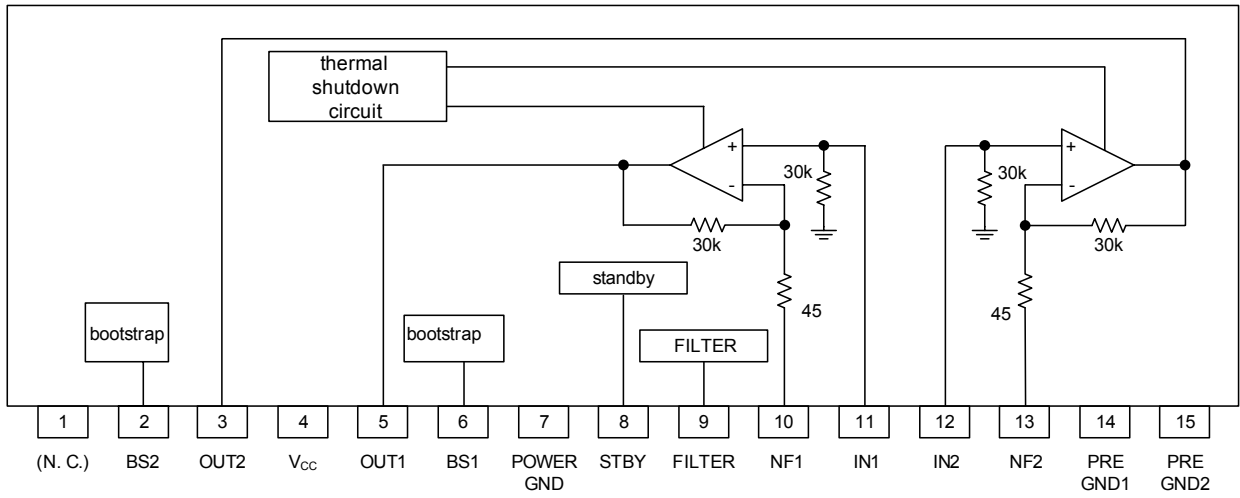
#### ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
PA5417-J15-A-T	PA5417L-J15-A-T	HZIP-15A	Tube

<p>PA5417L-J15-A-T</p> <p>(1) Packing Type (2) Package Type (3) Lead Plating</p>	<p>(1) T: Tube (2) J15-A: HZIP-15A (3) L: Lead Free Plating, Blank: Pb/Sn</p>
--	---



■ BLOCK DIAGRAM



FLYING 汎翔國際有限公司  
[www.flying1688.com](http://www.flying1688.com)

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V <sub>CC</sub>	20 (Note 2)	V
Power Dissipation (Ta=75°C, infinite heat sink)	P <sub>D</sub>	15	W
Junction Temperature	T <sub>J</sub>	+125	°C
Operating Temperature	T <sub>OPR</sub>	-20~ +75	°C
Storage Temperature	T <sub>STG</sub>	-55~+150	°C

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Must be within standby values.

■ RECOMMENDED OPERATING CONDITIONS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V <sub>CC</sub>	6.0 ~ 15.0	V

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, Vcc=9V, R<sub>L</sub>=3Ω, R<sub>F</sub>=120Ω, R<sub>G</sub>=600Ω, F=1kHz, OLT mode, unless otherwise specified)

PARAMETER	SYMBOL	CONIDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current	I <sub>Q</sub>	V <sub>IN</sub> =0Vrms		24	45	mA
Rated Output Voltage 1	P <sub>OUT1</sub>	THD=10%, V <sub>CC</sub> = 9V	2.2	2.8		W
Rated Output Voltage 2	P <sub>OUT2</sub>	THD=10%, V <sub>CC</sub> =12V	4.0	5.0		W
Closed-Loop Voltage Gain	G <sub>VC</sub>		43	45	47	dB
Output Noise Voltage	eN	R <sub>G</sub> =10kΩ, DIN AUDIO		0.3	1.0	mVrms
Total Harmonic Distortion	THD	P <sub>OUT</sub> =0.5W		0.1	1.0	%
Ripple Rejection	RR	f <sub>RR</sub> =100Hz, V <sub>RR</sub> =-10dBm	42	55		dB
Crosstalk	C <sub>T</sub>	V <sub>OUT</sub> =0dBm	48	65		dB
Circuit Current (with Standby Switch off)	I <sub>OFF</sub>			0	20	μA
Standby Pin Current When on	I <sub>STNBY</sub>	V <sub>STNBY</sub> =V <sub>CC</sub>		0.15	0.4	mA
Standby Pin Control Voltage	Activated	V <sub>STH</sub>		3.5		V
	Not activated	V <sub>STL</sub>			1.2	V

### ■ TEST CIRCUIT

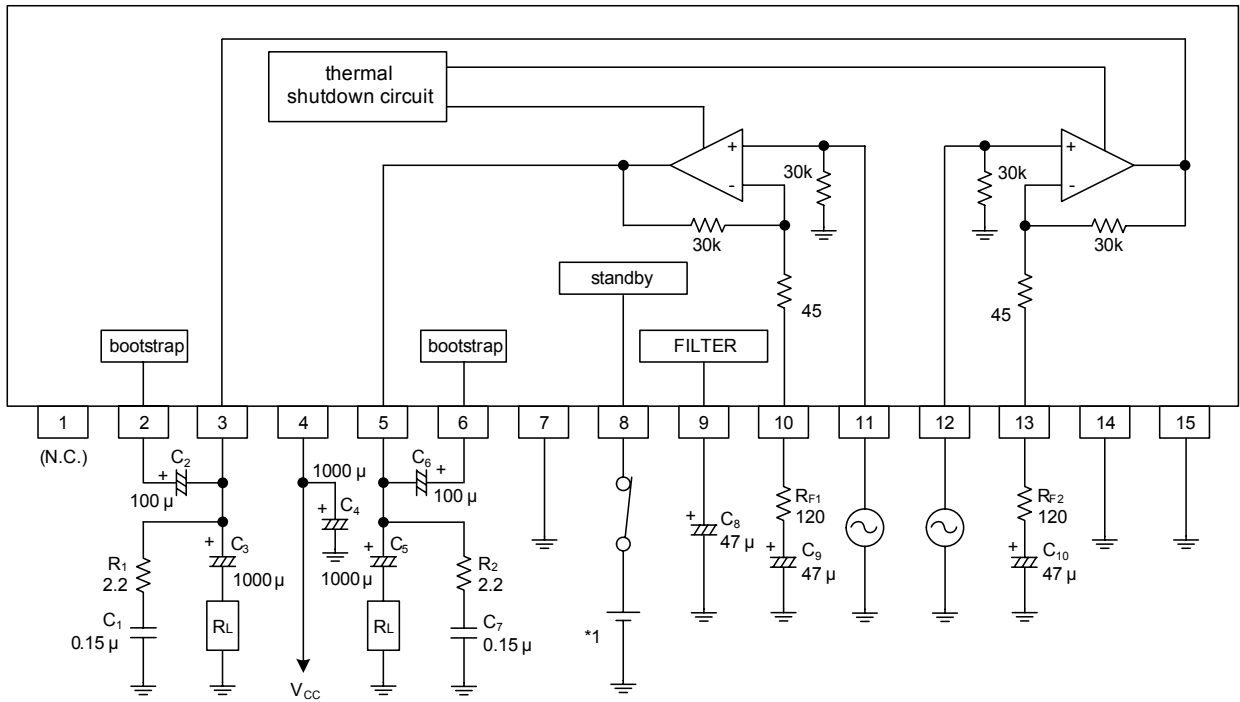


Fig.1

FLYING 汎翔國際有限公司  
 www.flying1688.com

## APPLICATION CIRCUITS

### OTL Mode

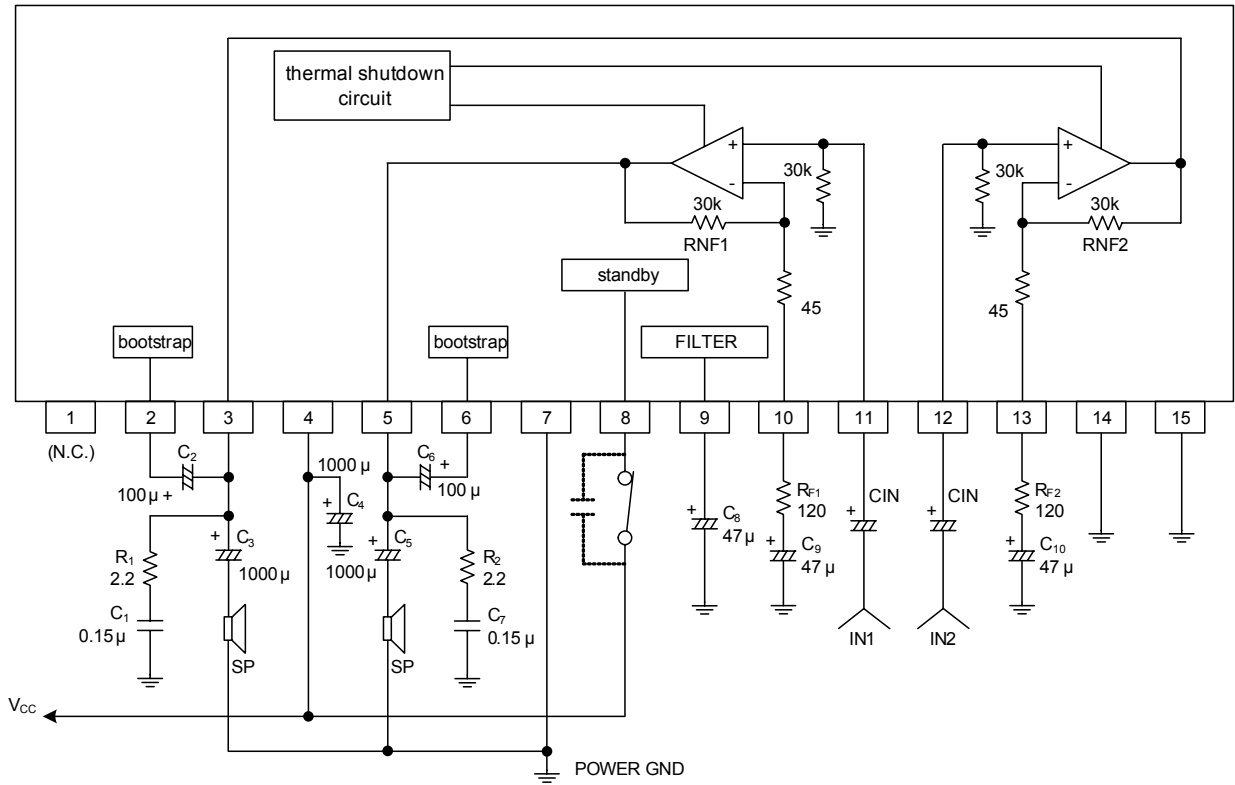
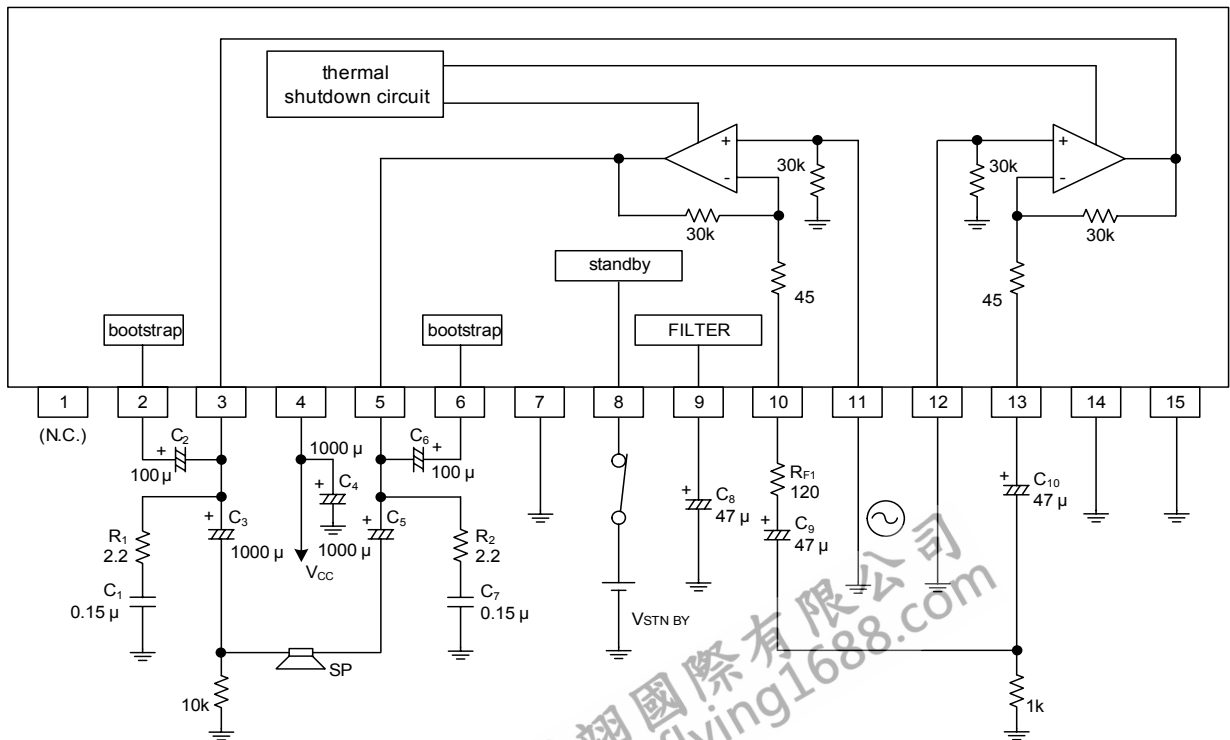


Fig.2

### BTL Mode

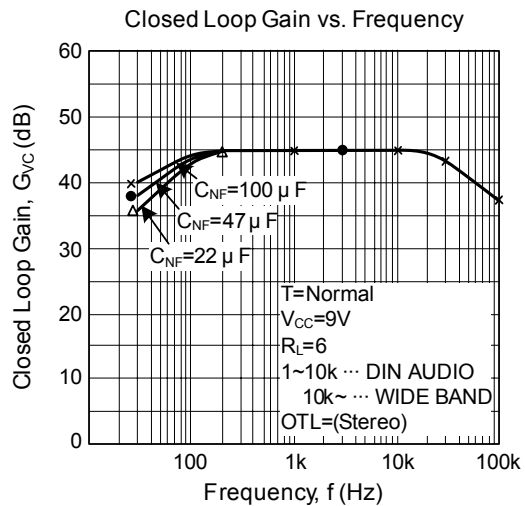
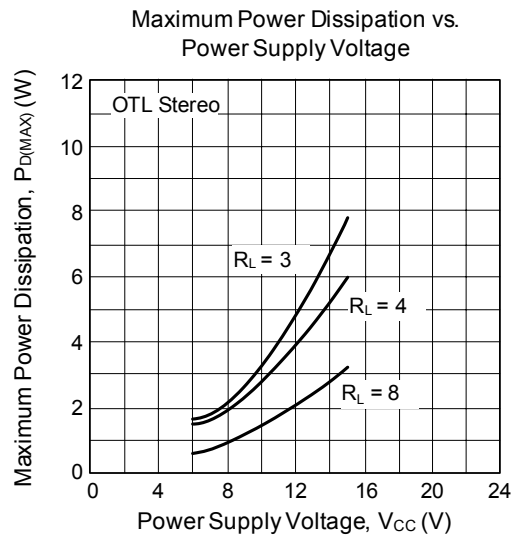
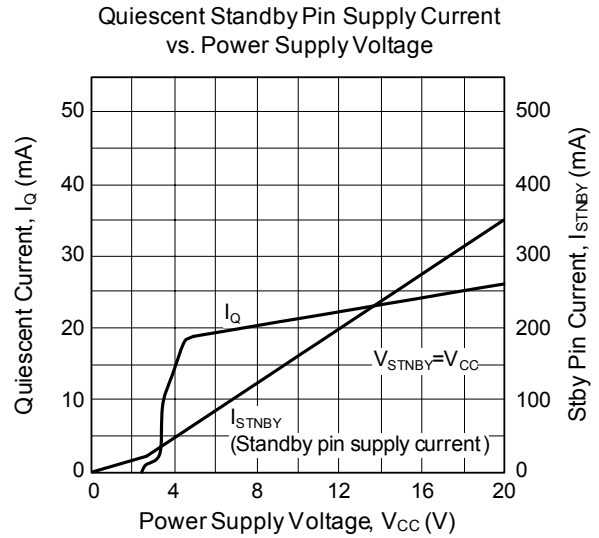
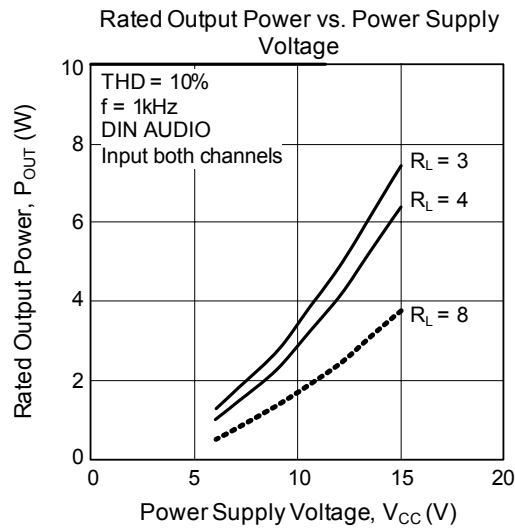


Note : 3pin, 5pin need coupling capacitors (C3, C5 100  $\mu$ F) for DC offset voltage.

Fig.3

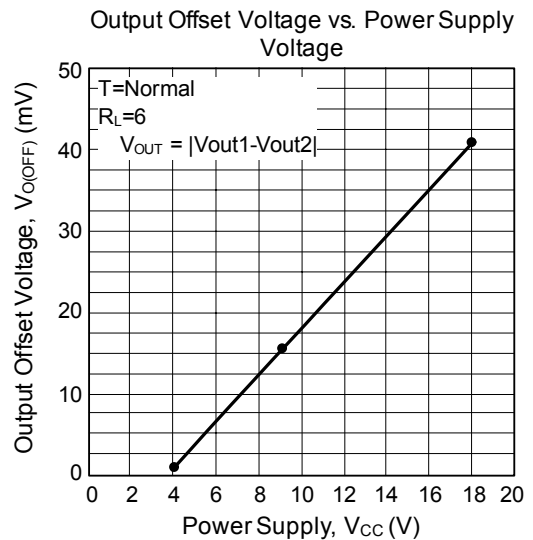
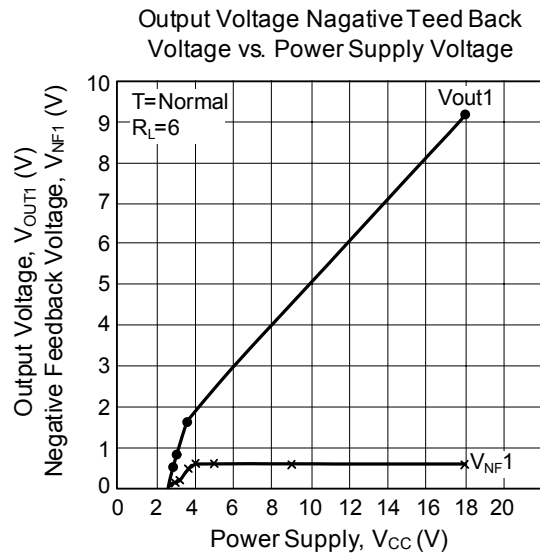
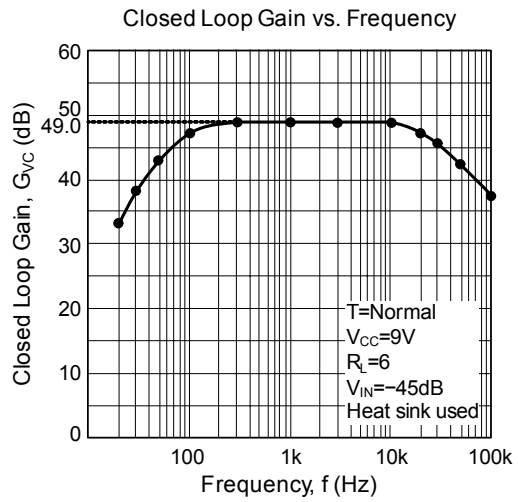
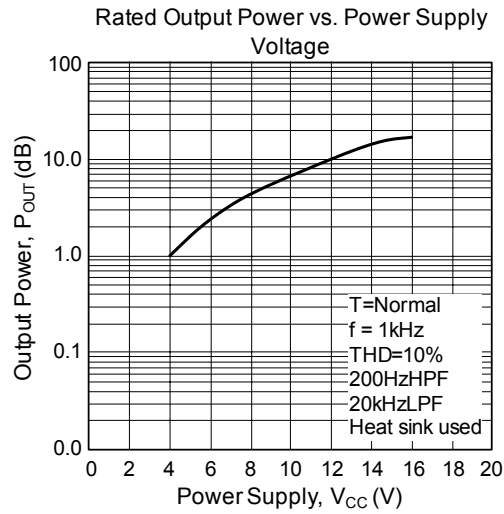
## TYPICAL CHARACTERISTICS

### OTL Mode



■ TYPICAL CHARACTERISTICS(Cont.)

**BTL Mode**



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.