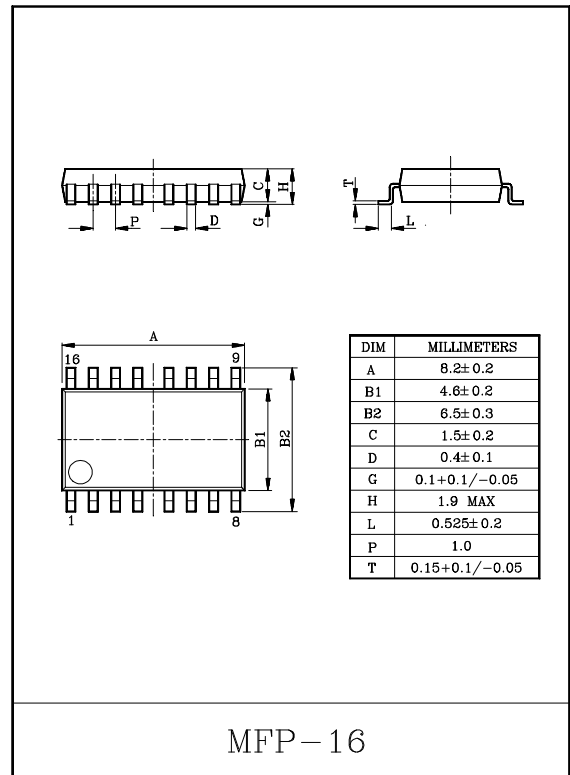


### DUAL HEADPHONE DRIVER (1.5V USE)

KIA6206F is a dual Headphone Driver IC designed for low voltage operation. (1.5V, 3.0V) Which is suitable for stereo headphone radio and radio cassette recorder equipments. This item can realize the low power dissipation and have high power output capability.

### FEATURES

- Condenser-less for input and output.
  - Condenser-less for bootstrap.
  - Built-in the muting function.
  - High power output capability according to adopting the matrix drive method.
- $P_{OUT(1)}=14\text{mW/ch(Typ.)}$  at  $V_{IN(R)}=V_{IN(L)}$  Mode  
 $P_{OUT(2)}=5.5\text{mW/ch(Typ.)}$  at  $V_{IN(R)}=-V_{IN(L)}$  Mode  
 $P_{OUT(3)}=10.5\text{mW/ch(Typ.)}$  at  $V_{IN(R)}=0$  or  $V_{IN(L)}=0$   
 ( $V_{CC}=1.5\text{V}$ ,  $R_L=32\Omega$ ,  $f=1\text{kHz}$ ,  $\text{THD}=10\%$ )
- Operating supply voltage range.  
 :  $V_{CC(\text{opr})}=0.9\sim 5.0\text{V}(T_a=25^\circ\text{C})$



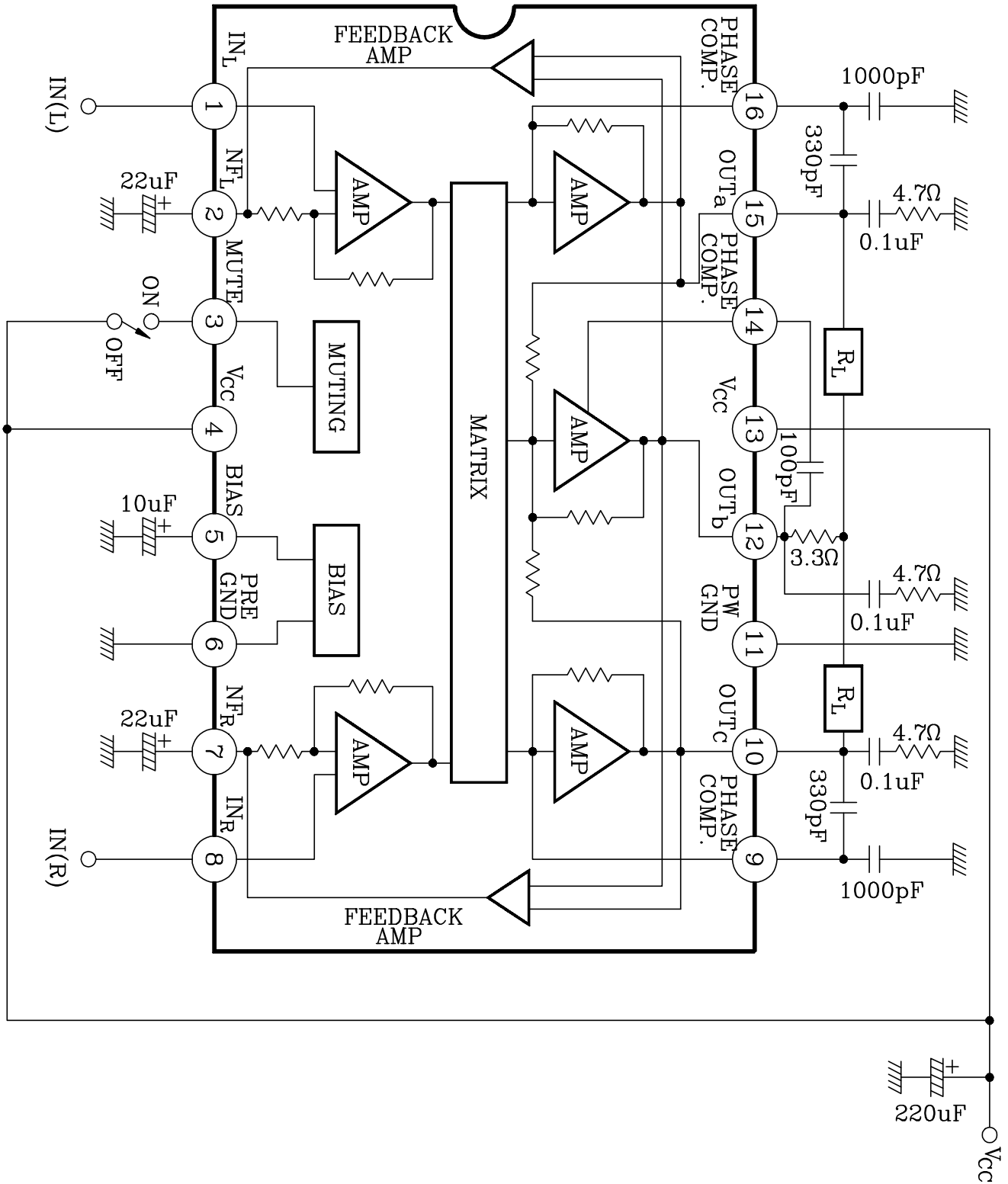
### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	5	V
Output Current	$I_{O(\text{peak})}$	160	mA
Power Dissipation (Note)	$P_D$	350	mW
Operating Temperature	$T_{\text{opr}}$	-25~75	°C
Storage Temperature	$T_{\text{stg}}$	-55~150	°C

Note : Derated above  $T_a=25^\circ\text{C}$  in the proportion of  $2.8\text{mW}/^\circ\text{C}$  for KIA6206F.

# KIA6206F

BLOCK DIAGRAM



# KIA6206F

## ELECTRICAL CHARACTERISTICS (AC)

(Unless otherwise specified,  $T_a=25^{\circ}\text{C}$ ,  $V_{CC}=1.5\text{V}$ ,  $f=1\text{kHz}$ ,  $R_g=620\Omega$ ,  $R_L=32\Omega$ )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Supply Current	$I_{CCQ}$	—	$V_{IN}=0$	—	6	8.4	mA
Input resistance	$R_{IN}$	—		—	50	—	$k\Omega$
Voltage Gain	$G_V$	—	$V_{IN}=-50\text{dBV}$ $V_{IN(R)}=V_{IN(L)}$	30	33	36	dB
Channel Balance	C•B	—		—	0	1.3	dB
Output Power	Po(1)	—	$V_{IN(R)}=V_{IN(L)}$ THD=10%	11	14	—	mW
	Po(2)	—	$V_{IN(R)}=-V_{IN(L)}$ THD=10%	—	5.5	—	
	Po(3)	—	$V_{IN(R)}=0$ or $V_{IN(L)}=0$ THD=10%	—	10.5	—	
Total Harmonic Distortion	THD(1)	—	$P_{O(L)}=P_{O(R)}=1\text{mW}$ $V_{IN(R)}=V_{IN(L)}$	—	0.4	1.0	%
	THD(2)	—	$P_{O(L)}=P_{O(R)}=1\text{mW}$ $V_{IN(R)}=-V_{IN(L)}$	—	2.5	—	
	THD(3)	—	$V_{IN(R)}=0$ or $V_{IN(L)}=0$ $P_O=1\text{mW}$	—	0.9	—	
Output Noise Voltage	$V_{NO}$	—	B.W.=20Hz~20kHz $R_g=600\Omega$	—	0.15	0.3	$\text{mV}_{\text{rms}}$
Cross Talk	C.T.	—	$V_O=-10\text{dBV}$ , $R_g=600\Omega$	—	32	—	dB
Ripple Rejection Ratio	R.R.	—	$V_{\text{RIP}}=-30\text{dBV}$ , $f_{\text{RIP}}=100\text{Hz}$	—	35	—	dB
Muting Attenuation	ATT	—	$V_{\text{MUTE}}=1.5\text{V}$	—	60	—	dB

# KIA6206F

DC CHARACTERISTICS ( $V_{CC}=1.5V$ ,  $T_a=25^{\circ}C$ , Terminal voltage at no signal)

PIN NO.	SYMBOL	TYP.	UNIT
PIN 1 (INPUT L)	V1	0.16	V
PIN 2 (NF L)	V2	0.73	V
PIN 3 (MUTE)	V3	-	V
PIN 4 ( $V_{CC}$ )	V4	1.50	V
PIN 5 (BIAS)	V5	0.74	V
PIN 6 (PRE GND)	V6	0	V
PIN 7 (NF R)	V7	0.73	V
PIN 8 (INPUT R)	V8	0.16	V
PIN 9 (PHASE COMPENSATION)	V9	0.80	V
PIN 10 (OUTPUT)	V10	0.75	V
PIN 11 (PW. GND)	V11	0	V
PIN 12 (OUTPUT)	V12	0.75	V
PIN 13 ( $V_{CC}$ )	V13	1.50	V
PIN 14 (PHASE COMPENSATION)	V14	0.80	V
PIN 15 (OUTPUT)	V15	0.75	V
PIN 16 (PHASE COMPENSATION)	V16	0.80	V

## TEST CIRCUIT

