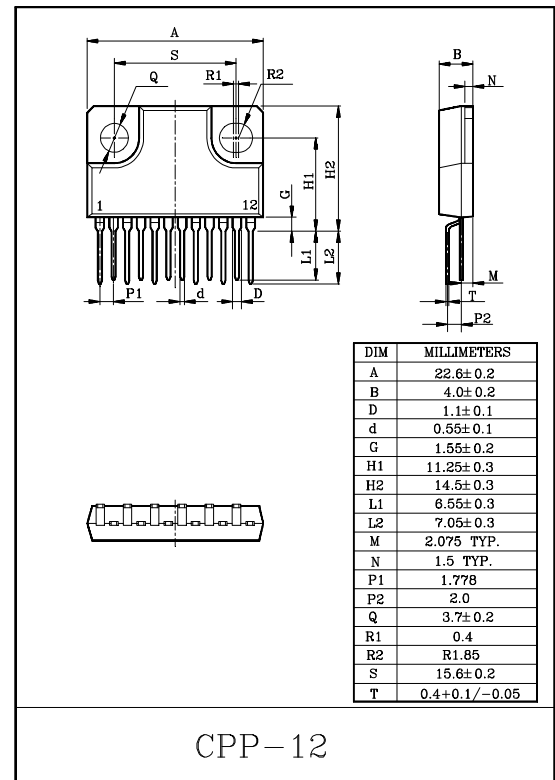


5.8W DUAL AUDIO POWER AMPLIFIER.
22W BTL AUDIO POWER AMPLIFIER.

The KIA6280H is dual audio power amplifier for consumer application. It is designed for high power, low distortion and low noise. It also contains various kind of protectors. It is suitable for car-audio power amplifier with high performance.

FEATURES

- High Power
 $P_{OUT(1)}=22W(Typ.)$
 $(V_{CC}=14.4V, f=1kHz, THD=10\%, R_L=4\Omega, BTL)$
 $P_{OUT(2)}=19W(Typ.)$
 $(V_{CC}=13.2V, f=1kHz, THD=10\%, R_L=4\Omega, BTL)$
 $P_{OUT(3)}=15W(Typ.)$
 $(V_{CC}=13.2V, f=1kHz, THD=1\%, R_L=4\Omega, BTL)$
 $P_{OUT(4)}=5.8W(Typ.)/ch$
 $(V_{CC}=13.2V, f=1kHz, THD=10\%, R_L=4\Omega, DUAL).$
- Low Distortion
 $THD(1)=0.03\%(Typ.)$
 $(V_{CC}=13.2V, f=1kHz, P_{OUT}=4W, G_V=40dB, R_L=4\Omega, BTL)$
 $THD(2)=0.06\%(Typ.)$
 $(V_{CC}=13.2V, f=1kHz, P_{OUT}=1W, G_V=52dB, R_L=4\Omega, DUAL).$
- Low Noise
 $V_{NO(1)}=0.14mV_{rms}(Typ.)$
 $(V_{CC}=13.2V, R_L=4\Omega, G_V=40dB, R_g=0, DIN\ Noise : DIN45405)$
 $V_{NO(2)}=0.7mV_{rms}(Typ.)$
 $(V_{CC}=13.2V, R_L=4\Omega, G_V=52dB, R_g=10k\Omega, BW=20Hz\sim 20kHz, DUAL).$
- Protector Circuit
 Thermal shut down, over voltage protection
 Out- V_{CC} short, OUT-GND short and Out-Out short protection.
- Operating supply voltage range
 $V_{CC}=9\sim 18V.$



KIA6280H

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Supply Voltage (0.2 sec)	V _{CC} surge	45	V
DC Supply Voltage	V _{CC} DC	25	V
Operating Supply Voltage	V _{CC} opr	18	V
Output Current (Peak)	I _O (peak)	4.5	A
Power Dissipation	P _D	25	W
Operating Temperature	T _{opr}	-30~85	℃
Storage Temperature	T _{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS

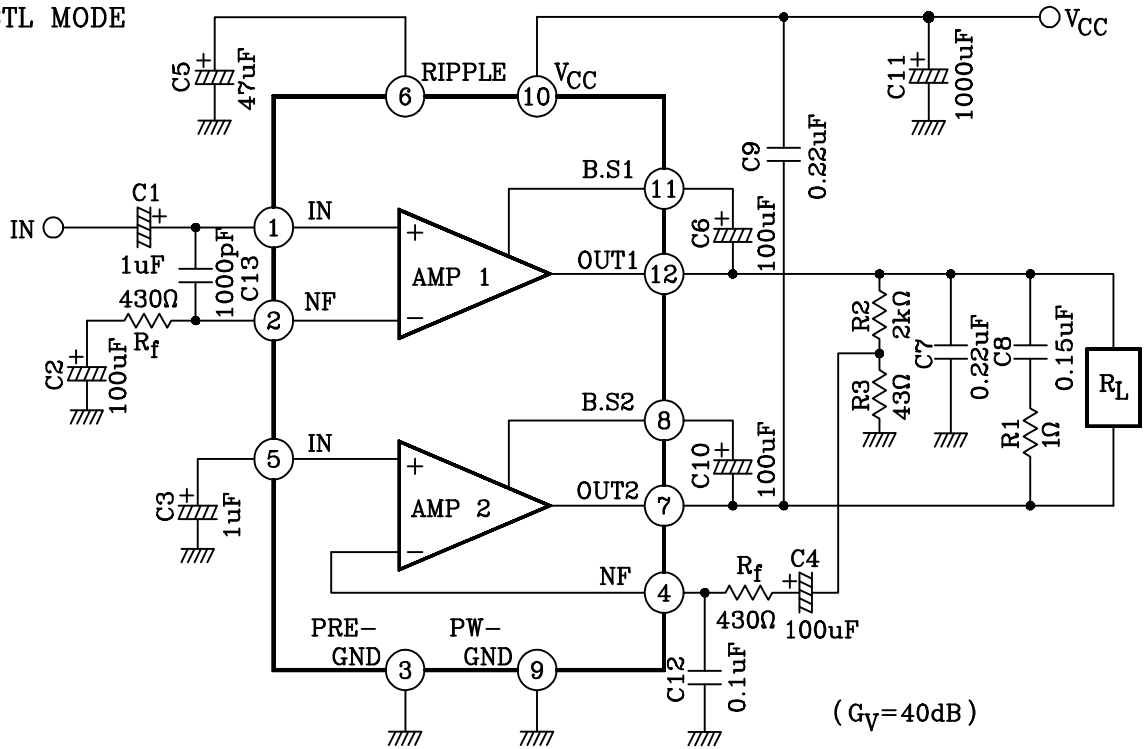
(Unless otherwise specified, V_{CC}=13.2V, R_L=4Ω, R_g=600Ω, f=1kHz, Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current		I _{CCQ}	2	V _{IN} =0	-	80	145	mA
	Output Power	P _{OUT} (1)	1	V _{CC} =14.4V, THD=10%	-	22	-	W
		P _{OUT} (2)	1	THD=10%	-	19	-	
		P _{OUT} (3)	1	THD=1%	-	15	-	
	Total Harmonic Distortion	THD(1)	1	P _{OUT} =4W, G _V =40dB	-	0.03	0.25	%
	Output Offset Voltage	V _{OFF}	1	V _{IN} =0	-	0	0.35	V
	Voltage Gain	G _V (1)	1	V _{OUT} =0dBm	-	40	-	dB
	Output Noise Voltage	V _{NO} (1)	1	R _g =0, BW=20Hz~20kHz	-	0.14	-	mV _{rms}
	Ripple Rejection Ratio	R.R(1)	1	f _{RIP} =100Hz, V _{RIP} =0dBm	-	-52	-40	dB
	Output Power	P _{OUT} (4)	2	THD=10%	5	5.8	-	W
	Total Harmonic Distortion	THD(2)	2	P _{OUT} =1W	-	0.06	0.30	%
	Voltage Gain	G _V (2)	2	V _{OUT} =0dBm	50	52	54	dB
	Voltage Gain Ratio	ΔG _V	2	V _{OUT} =0dBm	-1	0	1	dB
	Output Noise Voltage	V _{NO} (2)	2	R _g =10kΩ, BW=20Hz~20kHz	-	0.7	1.5	mV _{rms}
	Ripple Rejection Ratio	R.R(2)	2	f _{RIP} =100Hz, V _{RIP} =0dBm	-	-52	-40	dB
	Cross Talk	C.T	2	V _{OUT} =0dBm, R _g =600Ω	-	-57	-	dB
	Input Resistance	R _{IN}	2	-	-	33	-	kΩ

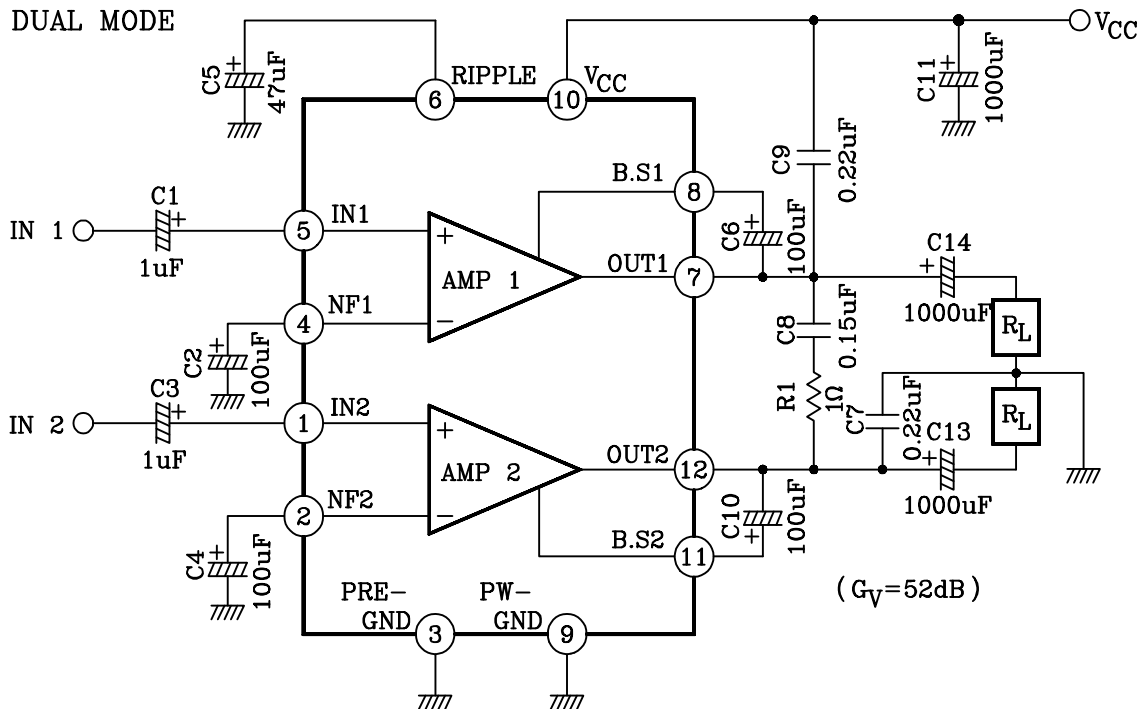
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TEST CIRCUIT/APPLICATION CIRCUIT

(1) BTL MODE



(2) DUAL MODE



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TYPICAL VOLTAGE OF EACH TERMINAL
(V_{CC}=13.2V, T_a=25℃, DUAL MODE TEST CIRCUIT)

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12
DC Voltage(V)	1.5	1.5	GND	1.5	1.5	6.4	6.4	12.3	GND	V _{CC}	12.3	6.4

APPLICATION INFORMATION

1.VOLTAGE GAIN ADJUSTMENT

(1) DUAL AMPLIFIER

The voltage gain G_V is determined by R_1 , R_2 and R_f in Fig. 1.

$$G_V = 20 \log \frac{R_f + R_1 + R_2}{R_f + R_1} \text{ (dB)}$$

In case of $R_f=0$

The voltage gain is set as follows:
 $G_V=52\text{dB}$ (Typ.)

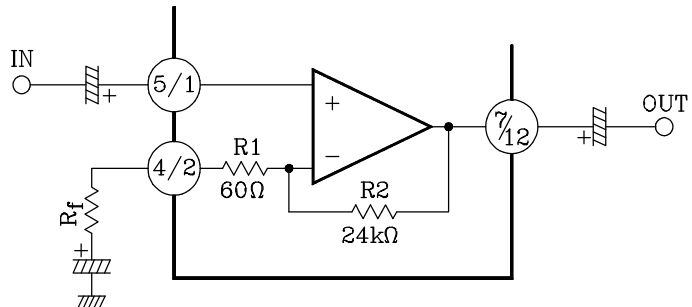


Fig. 1

(2) BTL AMPLIFIER

The recommended BTL connection amplifier shown in Fig. 2.

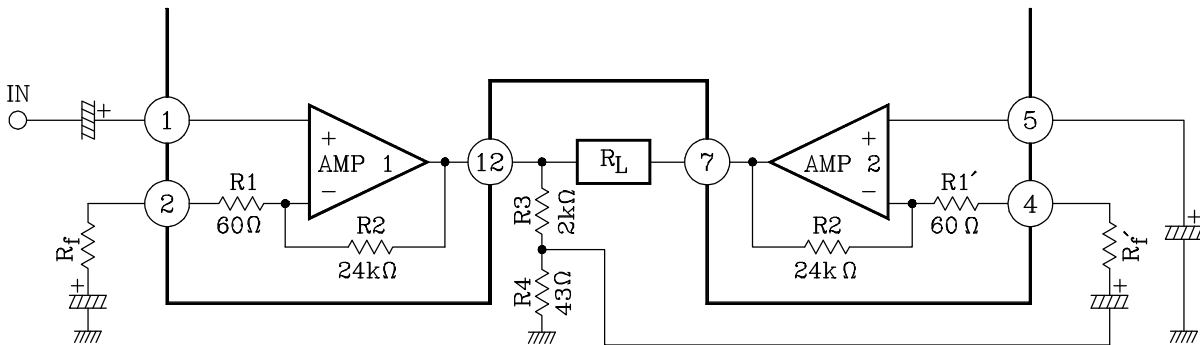


Fig. 2