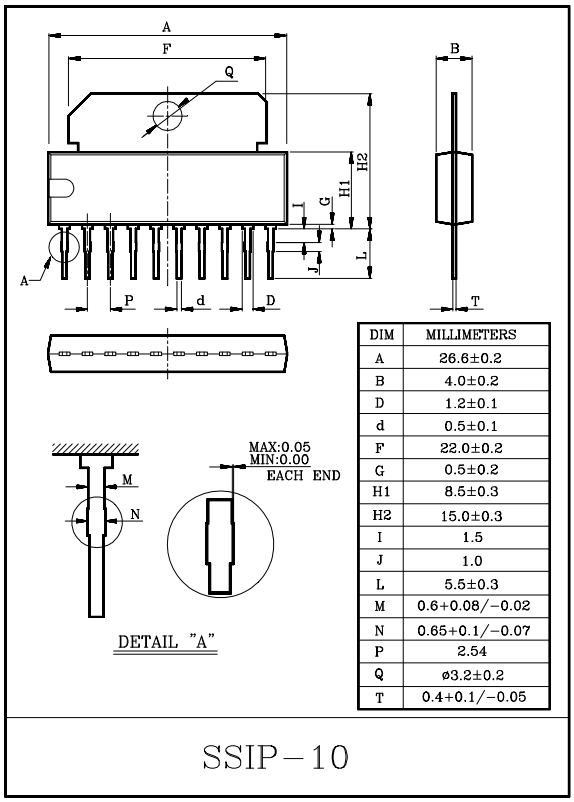
DUAL AUDIO POWER AMPLIFIER

The KIA6240K is dual power amplifier for consumer application. This IC provides an output power of 6 watts per channel (at V_{CC}=22V, f=1kHz, R_L=8Ω, THD=0.5%)
It is suitable for power amplifier of TV and home stereo.



DIM	MILLIMETERS
A	26.6±0.2
B	4.0±0.2
D	1.2±0.1
d	0.5±0.1
F	22.0±0.2
G	0.5±0.2
H1	8.5±0.3
H2	15.0±0.3
I	1.5
J	1.0
L	5.5±0.3
M	0.6+0.08/−0.02
N	0.65+0.1/−0.07
P	2.54
Q	ø3.2±0.2
T	0.4+0.1/−0.05

SSIP−10

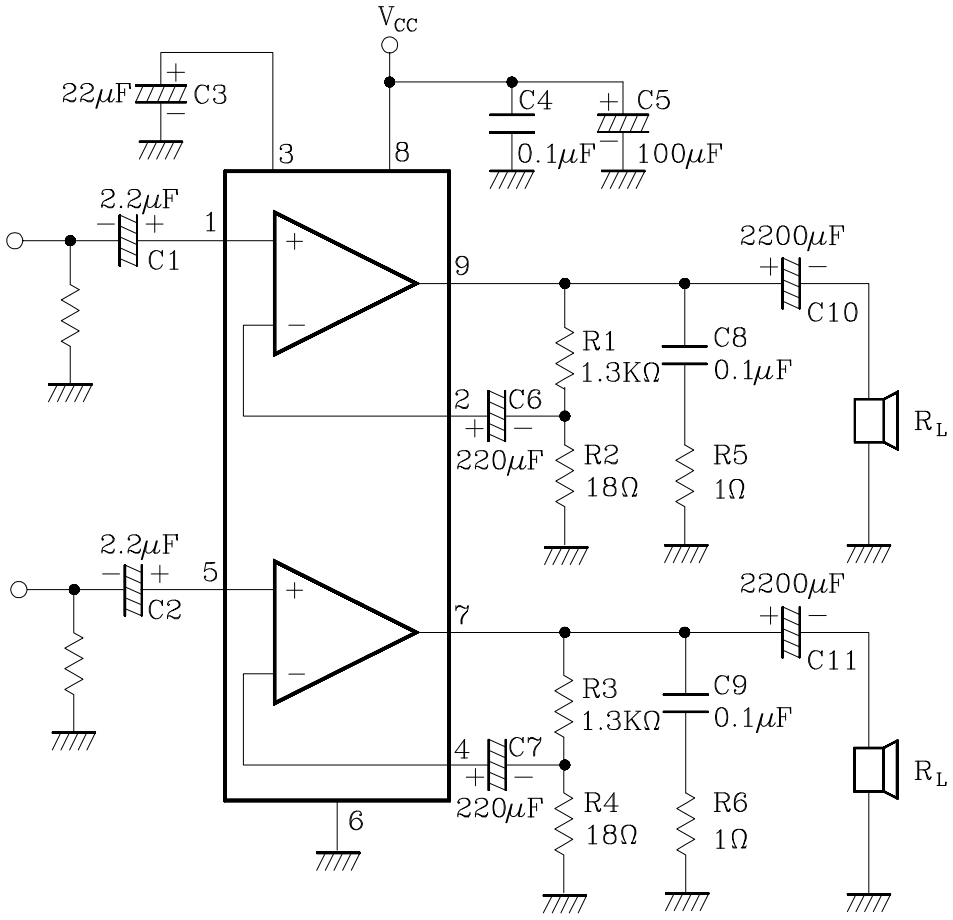
FEATURES

- High output power : P_{OUT}=6W(Typ.)
  (V_{CC}=22V, R_L=8Ω, f=1kHz, THD=0.5%)
- High current capability.
- AC short circuit protection.
- Thermal overload protection.
- Operation supply voltage range : $V_{CC(opr)}$=8～26V.

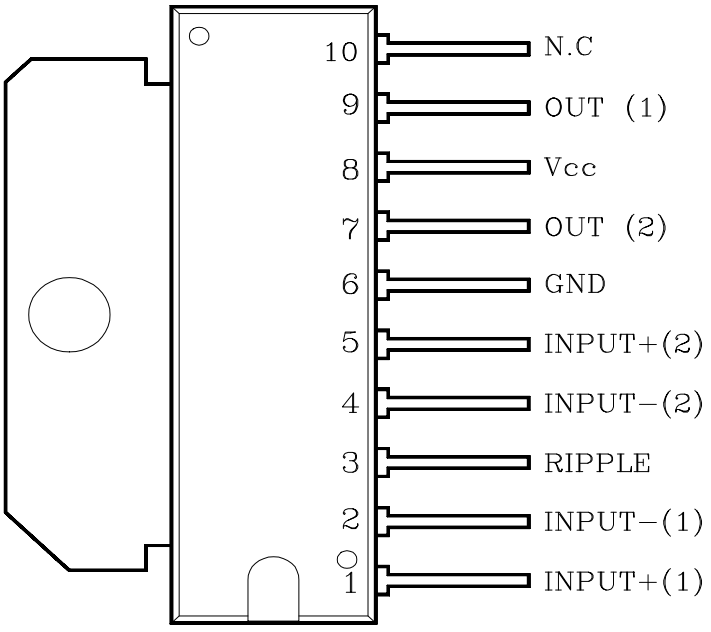
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	28	V
Output Current (repetitive f≧20Hz)	$I_{O(peak)}$	3	A
Output Current (non repetitive t=100μS)	$I_{O(peak)}$	3.5	A
Power Dissipation (Tcase=70℃)	P_D	10	W
Operating Temperature	T_{opr}	-20～75	℃
Storage Temperature	T_{stg}	-55～150	℃

BLOCK DIAGRAM / APPLICATION CIRCUIT



PIN CONFIGURATION (TOP VIEW)



ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, V_{CC}=18V, f=1kHz, Rg=600Ω, R_L=8Ω, Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Quiescent Current	I_{CCQ}	-	V_{IN}=0		-	50	90	mA
Quiescent Output Voltage	V_O	-			-	8.5	-	V
Output Power	P_{OUT} (1)	-	f=100Hz~6kHz, V_{CC}=18V, R_L=4Ω, THD=0.5%		5.0	6	-	W
	P_{OUT} (2)	-	f=100Hz~6kHz, V_{CC}=22V, R_L=8Ω, THD=0.5%		5.0	6	-	
Total Harmonic Distortion	THD(1)	-	V_{CC}=18V, R_L=4Ω P_{OUT}=100mW to 3W		-	0.1	-	%
	THD(2)	-	V_{CC}=22V, R_L=8Ω P_{OUT}=100mW to 3W		-	0.05	-	
Cross Talk	C.T	-	Rg=10kΩ, V_{OUT}=0.775V_{rms}	f=1kHz	50	60	-	dB
				f=10kHz	40	50	-	
Input Saturation Voltage	V_{IN}	-			300	-	-	mV_{rms}
Input Resistance	R_{IN}	-			70	200	-	kΩ
Voltage Gain	G_V	-	V_{OUT}=0.775V_{rms}		35.5	36	36.5	dB
Input Noise voltage	V_{NI}	-	Rg=10kΩ, BW=20Hz~20kHz		-	2.5	8.0	μV_{rms}
Ripple Rejection Ratio	R.R	-	Rg=10kΩ, V_{ripple}=0.5V, f=100Hz		-	-55	-	dB
Thermal Shut-down Junction Temperature	T_j	-			-	145	-	℃

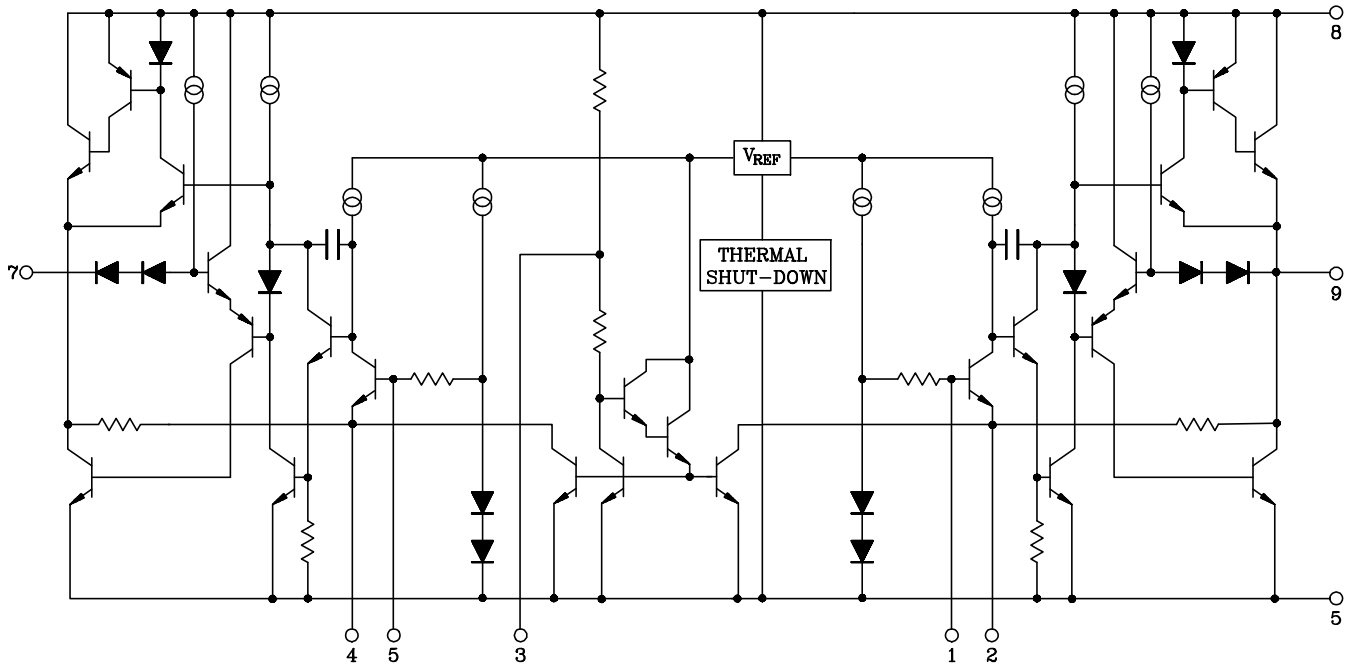
EXTERNAL PARTS TABLE

The recommended values of the components are those shown on application circuit.
Different values can be used; the following table can help the designer.

Parts Number	Typical	Purpose	Influence		Note
			Smaller Than Typ.	Larger Than Typ.	
R_1, R_3	1.3kΩ	Close Loop Gain Setting *	Decrease of Gain	Increase of Gain	
R_2, R_4	18Ω		Increase of Gain	Decrease of Gain	
R_5, R_6	1Ω	Frquency Stability		Danger of Oscillation at High Frequency with inductive load	
C_1, C_2	2.2μF	Input D.C Decoupling	High Turn-on Pop Higher Low Frquency Cutoff Increase of Noise	High Turn-on Delay	
C_3	22μF	Ripple Rejection	Degradation of Ripple Rejection	Better Ripple Rejection Ratio increase of the Switch-on time	
C_6, C_7	220μF	Feedback Input D.C Decoupling			
C_8, C_9	0.1μF	Frequency Stability	Danger of Oscillation		

* : The closed loop gain must be higher than 26dB.

SCHEMATIC DIAGRAM



APPLICATION INFORMATION

12W Bridge Amplifier (THD=0.5%, G_V=40dB)