TBA820M   LINEAR INTEGRATED CIRCUIT
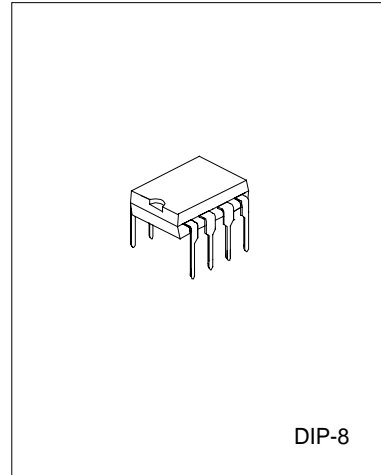
1.2W AUDIO POWER AMPLIFIER

DESCRIPTION

The TBA820M is a monolithic integrated circuit audio amplifier. It is designed for audio frequency Class B amplifiers.

FEATURES

*Wide operating supply voltage:Vcc=3~12V
*Low quiescent supply current(Icc=4mA,typical)
*Medium output power
   Po=1.2W at Vcc=9V,R_L=8ohm ,Thd=10%
*Good ripple rejection
*Minimum number of external parts required.

DIP-8

BLOCK DIAGRAM

| Ripple | Bootstrap | Vcc | Output |
| 8 | 7 | 6 | 5 |

| 1 | 2 | 3 | 4 |
| CB | NF | Input | GND |
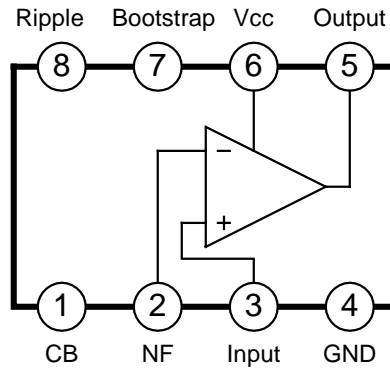
ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	Vcc	14	V
Output Peak Current	Ipeak	1.5	A
Power Dissipation	P_D	1.25	W
Operating Temperature	Topr	-20 ~ +70	°C
Storage Temperature	Tstg	-40 ~ +150	°C

ELECTRICAL CHARACTERISTICS

(Ta=25°C,Vcc=9V,f=1kHz,RG=600Ω,RF=120Ω,RL=8Ω,unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Quiescent circuit current	I_{CCQ}	VI=0		4	12	mA
Output Power	Po	Vcc=9V,R_L=4Ω,THD=10%		1.6		W
		Vcc=9V,R_L=8Ω,THD=10%	0.9	1.2		
		Vcc=6V,R_L=4Ω,THD=10%		0.75		
		Vcc=6V,R_L=8Ω,THD=10%	0.4	0.5		
		Vcc=12V,R_L=8Ω,THD=10%		2		
Total Harmonic Distortion	THD	Po=500mW		0.3	1.0	%
Open Loop Voltage Gain	Gvo	R_F=0		75		dB
Closed Loop Voltage Gain	Gvc	R_F=120Ω	33	36	39	dB
Input Resistance	RI			5		MΩ
Output Noise Voltage	V_{NO}	R_G=10kΩ BW(-3dB)=50~20kHz		0.3	1.0	mW

TEST CIRCUIT
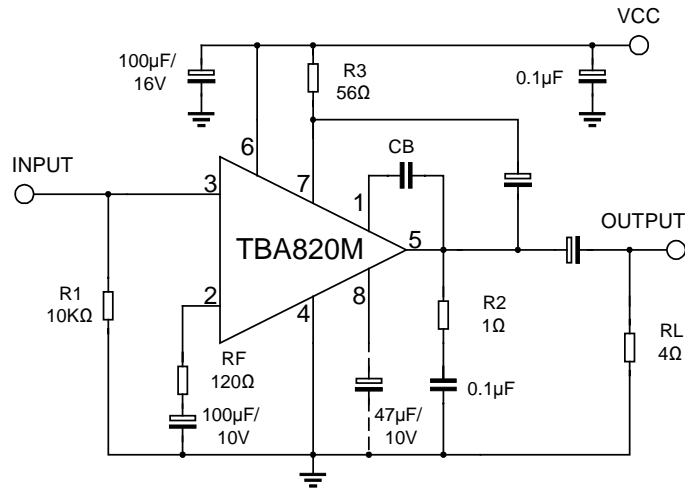
TYPICAL CHARACTERISTIC PERFORMANCE
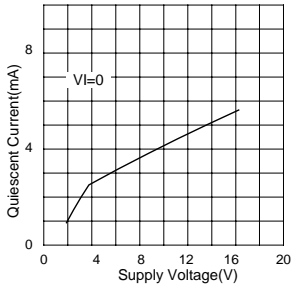
Fig 1 Quienscent circuit current vs Supply Voltage

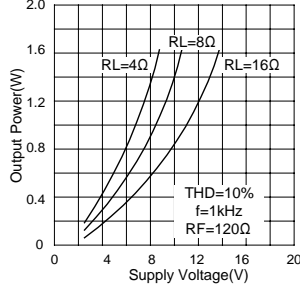Fig 2 Output power vs Supply Voltager
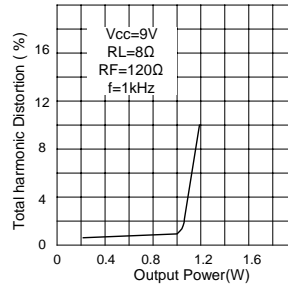
Fig 3 Total harmonic Distortion vs Output power

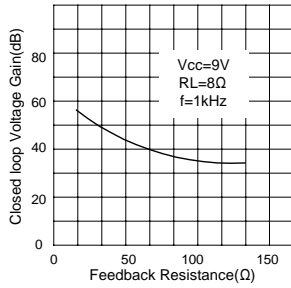Fig 4 Voltage Gain vs Feedback resistance

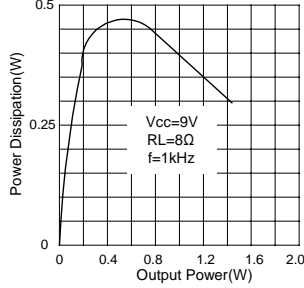Fig 5 Power Dissipation vs Output power
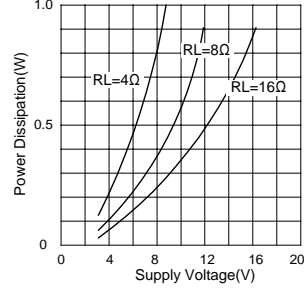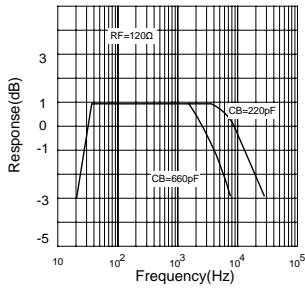
Fig 6 Power Dissipation vs Supply Voltage

Fig 7 Frequency response

Fig 8 Total Harmonic distortion vs frequency