

TBA820M LINEAR INTEGRATED CIRCUIT

1.2W AUDIO POWER AMPLIFIER

DESCRIPTION

The Contek TBA820M is a monolithic integrated audio amplifier.

It is designed for audio frequency class b amplifier.

FEATURES

*Wide operating supply voltage: $V_{CC}=3\sim 14V$

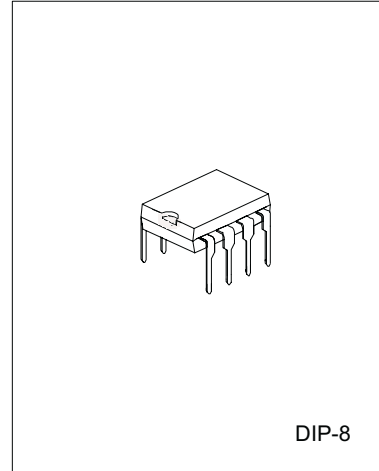
*Medium output power

$P_o=1.2W$ at $V_{CC}=9V, R_L=8\ \Omega, \text{Thd}=10\%$

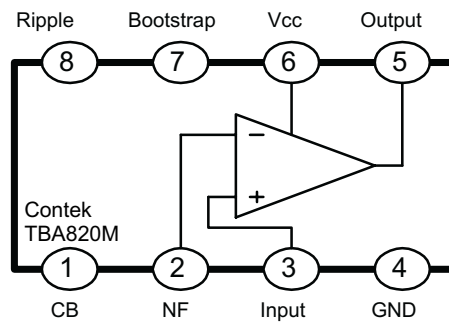
*Low quiescent circuit current: $I_{CCQ}=4mA(\text{type})$

*Good ripple rejection.

*Minimum number of external parts required.



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS ($T_a=25\ \text{C}$)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	16	V
Output Peak Current	I_{peak}	1.5	A
Power Dissipation	P_D	1.25	W
Operating Temperature	T_{opr}	$-20 \sim +70$	C
Storage Temperature	T_{stg}	$-40 \sim +150$	C



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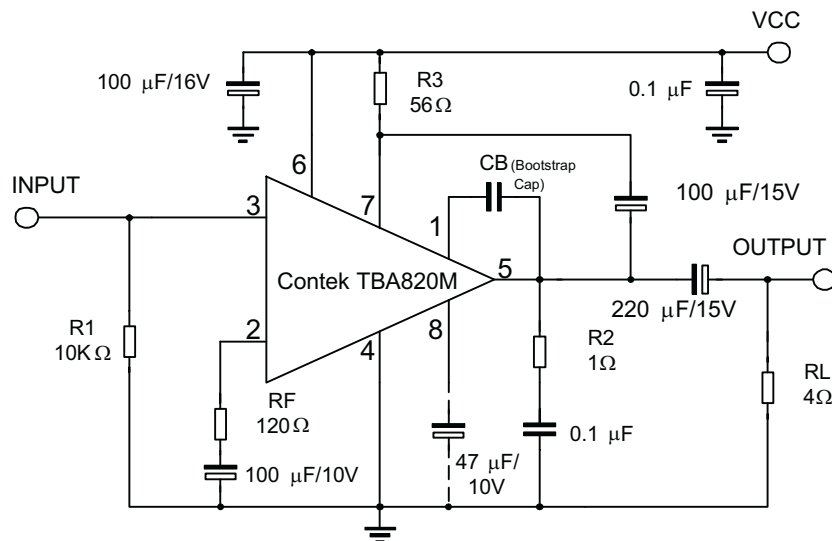
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ELECTRICAL CHARACTERISTICS ($T_a=25\text{ }^{\circ}\text{C}$, $V_{cc}=9\text{V}$, $f=1\text{kHz}$, $R_G=600\ \Omega$, $R_F=120\ \Omega$, $R_L=8\ \Omega$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Circuit Current	I_{ccQ}	$V_I=0$		4	12	mA
Output Power	P_o	$V_{cc}=9\text{V}$, $R_L=4\ \Omega$, THD=10%		1.6		W
		$V_{cc}=9\text{V}$, $R_L=8\ \Omega$, THD=10%	0.9	1.2		
		$V_{cc}=6\text{V}$, $R_L=4\ \Omega$, THD=10%		0.75		
		$V_{cc}=6\text{V}$, $R_L=8\ \Omega$, THD=10%	0.4	0.5		
Total Harmonic Distortion	THD	$P_o=500\text{mW}$		0.3	1	%
Open Loop Voltage Gain	G_{vo}	$R_F=0$		75		dB
Closed Loop Voltage Gain	G_{vc}	$R_F=120\ \Omega$	33	36	39	dB
Input Resistance	R_I			5		$M\ \Omega$
Output Noise Voltage	V_{NO}	$R_G=10\text{k}\ \Omega$ $BW(-3\text{dB})=50\sim 20\text{kHz}$		0.3	1	mW

TEST CIRCUIT



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TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1 Quiescent circuit current vs Supply Voltage

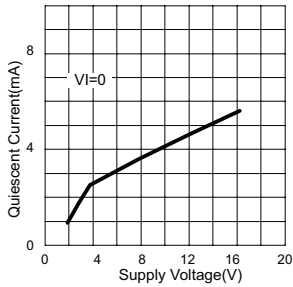


Fig 2 Output power vs Supply Voltage

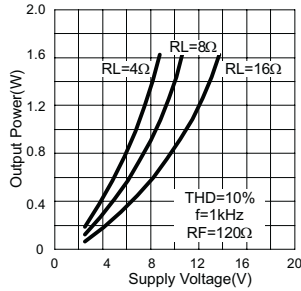


Fig 3 Total harmonic Distortion vs Output power

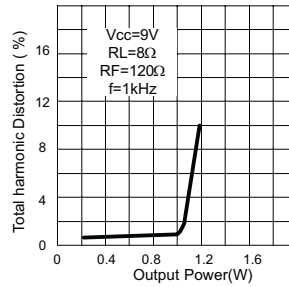


Fig 4 Voltage Gain vs Feedback resistance

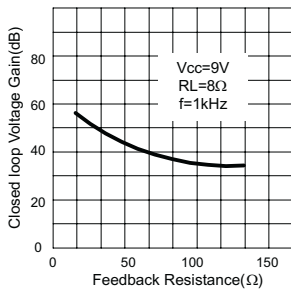


Fig 5 Power Dissipation vs Output power

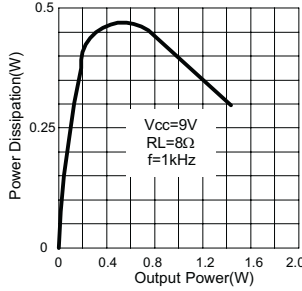


Fig 6 Power Dissipation vs Supply Voltage

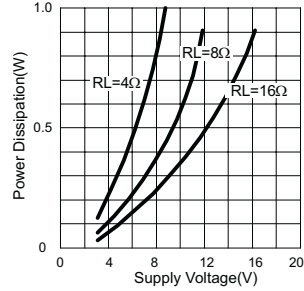


Fig 7 Frequency response

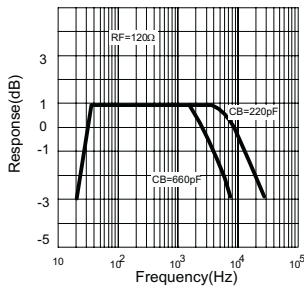


Fig 8 Total Harmonic distortion vs frequency

