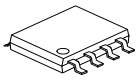
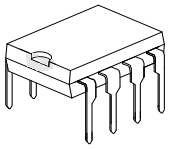
TBA820M

LINEAR INTEGRATED CIRCUIT

1.2W AUDIO POWER AMPLIFIER



SOP-8



DIP-8

■ DESCRIPTION

The UTC **TBA820M** is a monolithic integrated audio amplifier. It is designed for audio frequency class b amplifier.

■ FEATURES

*Wide operating supply voltage: Vcc=3~14V
*Medium output power
P_{OUT}=1.2W at Vcc=9V,R_L=8Ω, THD=10%
*Low quiescent circuit current: I_Q=4mA(type)
*Good ripple rejection.
*Minimum number of external parts required.

■ ORDERING INFORMATION

Order Number		Package	Packing
Lead Free	Halogen Free		
TBA820ML-S08-R	TBA820MG-S08-R	SOP-8	Tape Reel
TBA820ML-S08-T	TBA820MG-S08-T	SOP-8	Tube
TBA820ML-D08-T	TBA820MG-D08-T	DIP-8	Tube

TBA820ML-S08-R
(1)Packing Type
(2)Package Type
(3)Lead Free

(1) R: Tape Reel
(2) S08: SOP-8, D08: DIP-8
(3) G: Halogen Free, L: Lead Free

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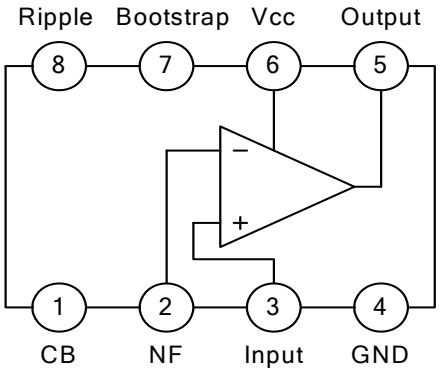
■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T_A =25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	Vcc	16	V
Output Peak Current	$I_{O(peak)}$	1.5	A
Power Dissipation	P_D	1.25	W
Operating Temperature	T_{OPR}	-20 ~ +85	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

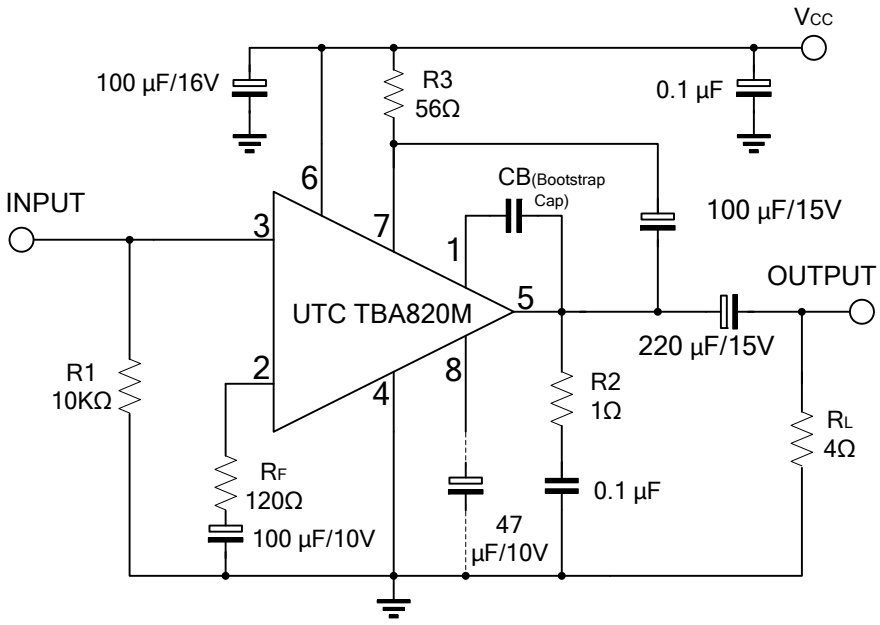
Note:1. Absolute maximum ratings are stress ratings only and functional device operation is not implied. The device could be damaged beyond Absolute maximum ratings.
2. The device is guaranteed to meet performance specifications within 0°C~70°C operating temperature range and assured by design from –20°C~85°C.

■ ELECTRICAL CHARACTERISTICS

(T_A=25°C, V_{CC}=9V, F=1KHz, R_G=600Ω, R_F=120Ω, R_L=8Ω, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current	I_Q	V_{IN}=0		4	12	mA
Output Power	P_{OUT}	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	P_{OUT}=500mW		0.3	1	%
Open Loop Voltage Gain	Gvo	R_F=0		75		dB
Closed Loop Voltage Gain	Gvc	R_F=120Ω	33	36	39	dB
Input Resistance	R_{IN}			5		MΩ
Output Noise Voltage	eN	R_G=10kΩ, BW(-3dB)=50~20kHz		0.3	1	mV

■ TEST CIRCUIT



■ TYPICAL CHARACTERISTICS

Fig 1 Quienscent circuit current vs Supply Voltage

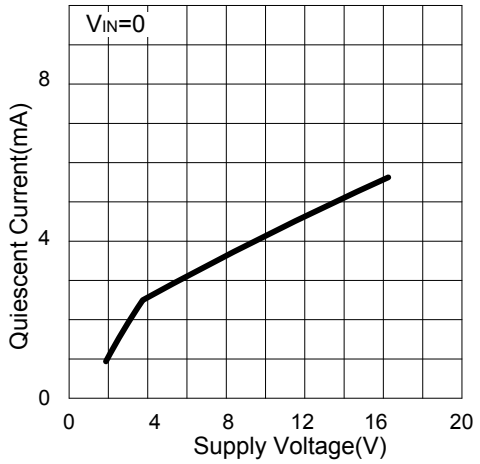


Fig 2 Output power vs Supply Voltage

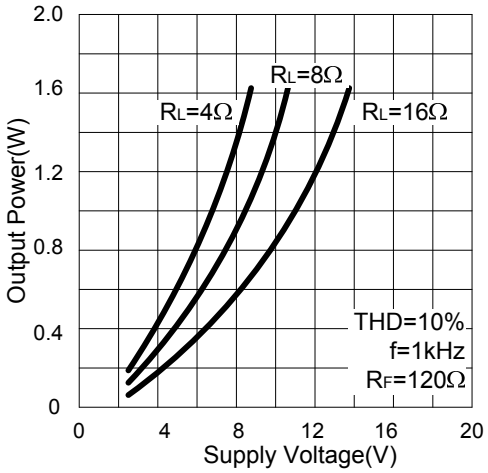


Fig 3 Total harmonic Distortion vs Output power

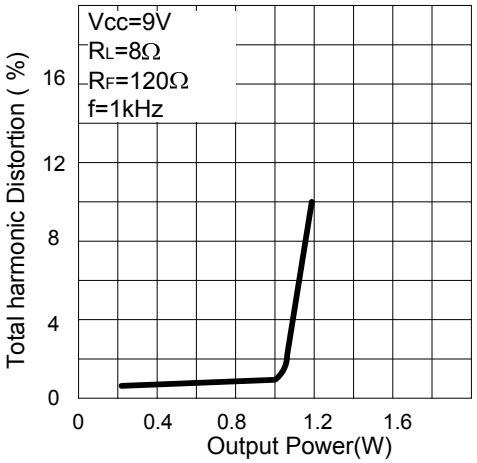


Fig 4 Voltage Gain vs Feedback resistance

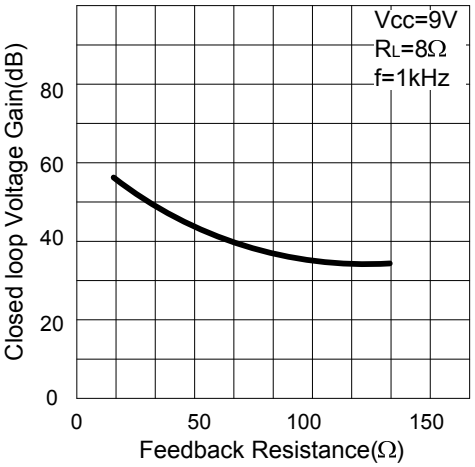


Fig 5 Power Dissipation vs Output power

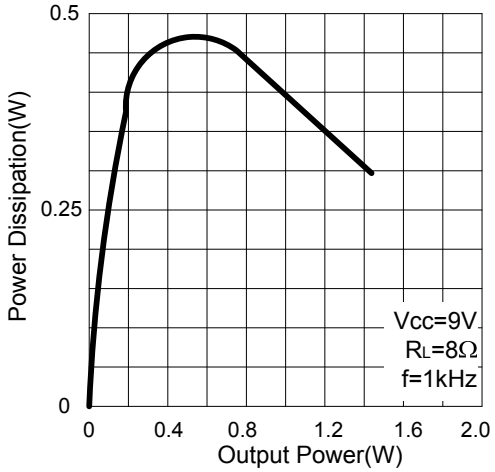
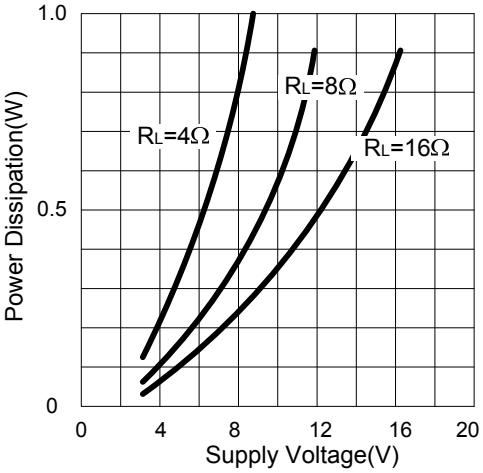


Fig 6 Power Dissipation vs Supply Voltage



■ TYPICAL CHARACTERISTICS(CONT.)

Fig 7 Frequency response

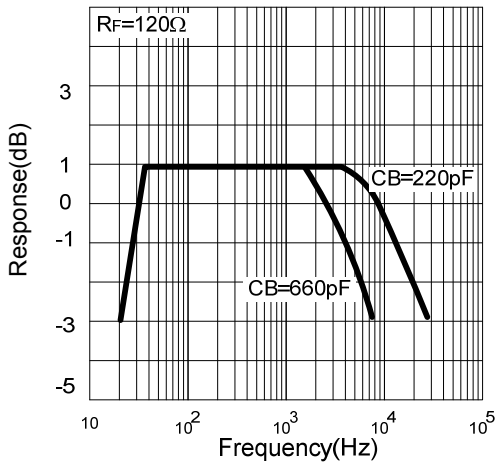
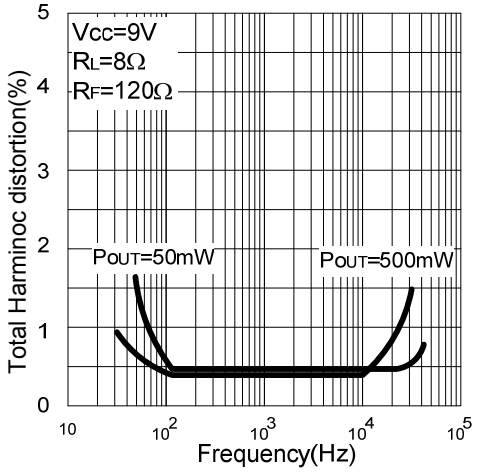


Fig 8 Total Harmonic distortion vs frequency



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