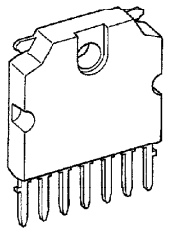
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8213K

AUDIO POWER AMPLIFIER

The TA8213K is audio power amplifier for consumer applications.
This IC provides an output power of 6W (at V_{CC} = 20V, R_L = 8Ω, f = 1kHz, THD = 10%), it is suitable for power amplifier of TV.



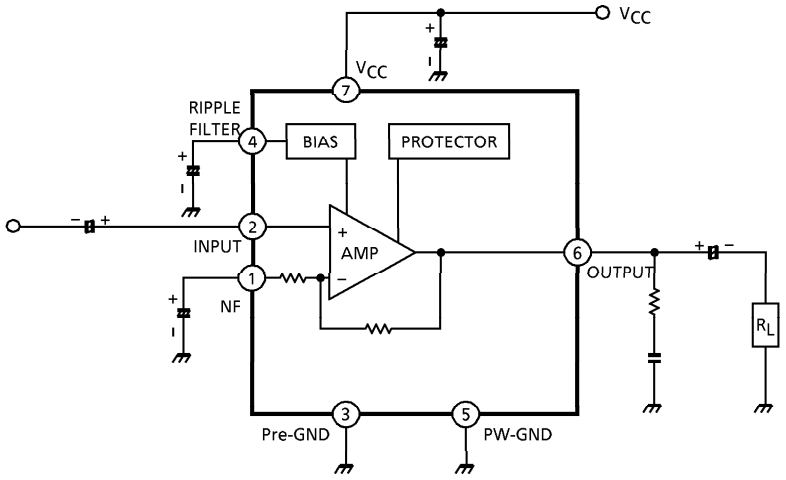
HSIP7-P-2.54B

Weight : 2.19g (Typ.)

FEATURES

- High output power : P_{out} = 6W (Typ.)
  (V_{CC} = 20V, R_L = 8Ω, f = 1kHz, THD = 10%)
- Low Noise : V_{no} = 0.14mV$_{rms}$ (Typ.)
  (V_{CC} = 20V, R_L = 8Ω, G_V = 34dB, R_g = 10kΩ, BW = 20Hz~20kHz)
- Very few external parts
- Built in thermal shut down protector circuit
- Operation Supply Voltage Range : $V_{CC\ (opr)}$ = 10~30V (Ta = 25°C)

BLOCK DIAGRAM



961001EBF2

MAXIMUM RATINGS (Ta = 25°C)

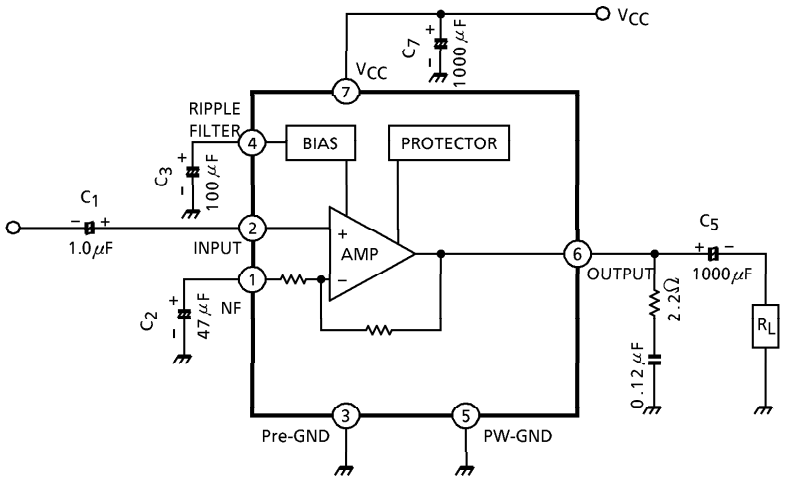
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	30	V
Output Current	$I_{O\ (peak)}$	2	A
Power Dissipation	P_D (Note)	15	W
Operating Temperature	T_{opr}	− 20~75	°C
Storage Temperature	T_{stg}	− 55~150	°C

(Note) Derated above Ta = 25°C in the proportion of 120mW / °C.

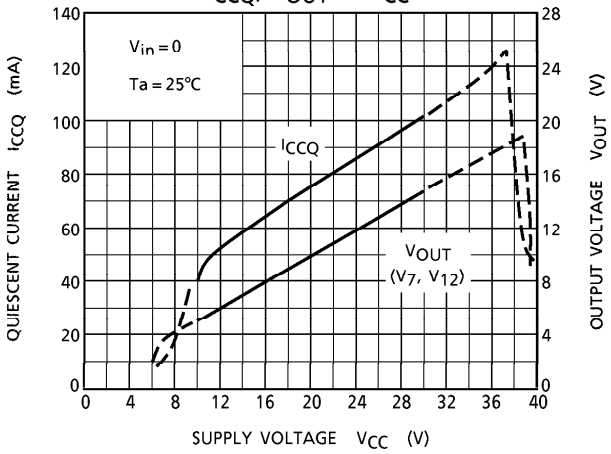
ELECTRICAL CHARACTERISTICS
(Unless otherwise specified, V_{CC} = 20V, R_L = 8Ω, R_g = 600Ω, f = 1kHz, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I_{CCQ}	—	V_{in} = 0	—	45	65	mA
Output Power	P_{out} (1)	—	THD = 10%	5.0	6.0	—	W
	P_{out} (2)	—	THD = 1%	—	4.5	—	
Total Harmonic Distortion	THD	—	P_{OUT} = 2W	—	0.1	0.7	%
Voltage Gain	G_V	—	V_{OUT} = 0.775V_{rms} (0dBm)	32.5	34.0	35.5	dB
Input Resistance	R_{IN}	—		—	30	—	kΩ
Ripple Rejection Ratio	R.R.	—	R_g = 0, f_{ripple} = 100Hz V_{ripple} = 0.775V_{rms} (0dBm)	− 45	− 57	—	dB
Output Noise Voltage	V_{no}	—	R_g = 10kΩ BW = 20Hz~20kHz	—	0.14	0.3	mV_{rms}

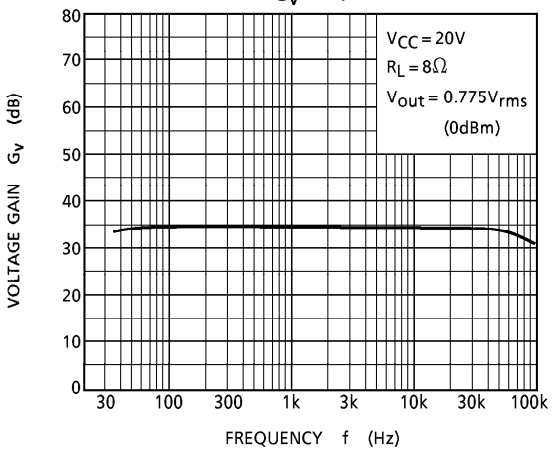
TEST CIRCUIT



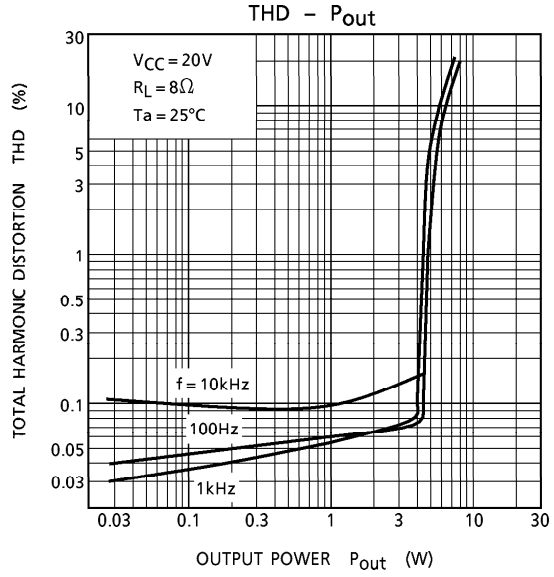
I_{CCQ}, V_{OUT} – V_{CC}



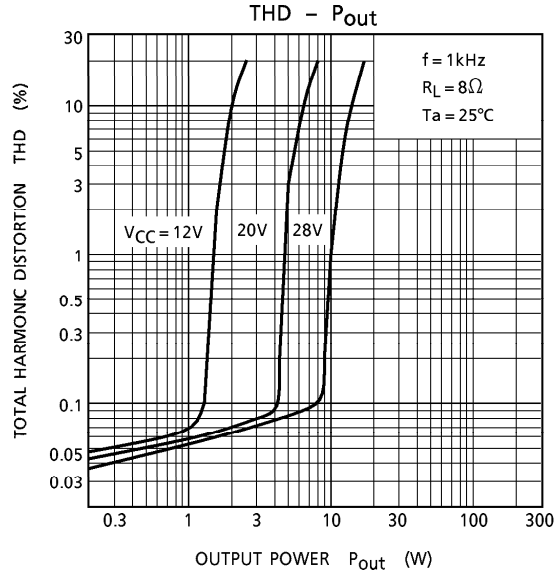
G_V – f



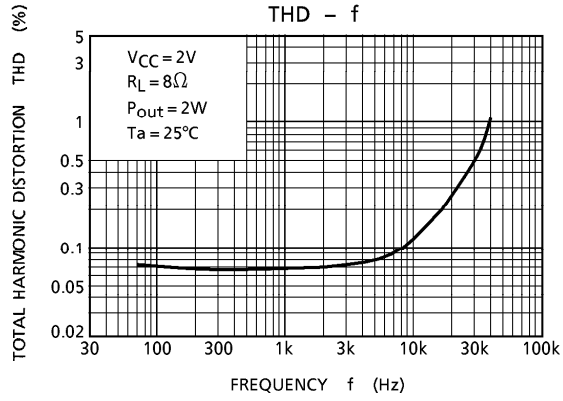
THD – P_{out}



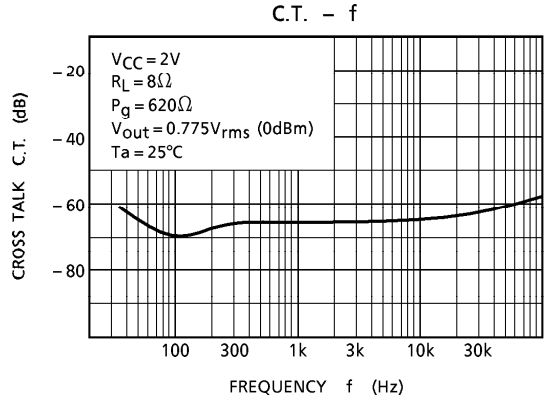
THD – P_{out}



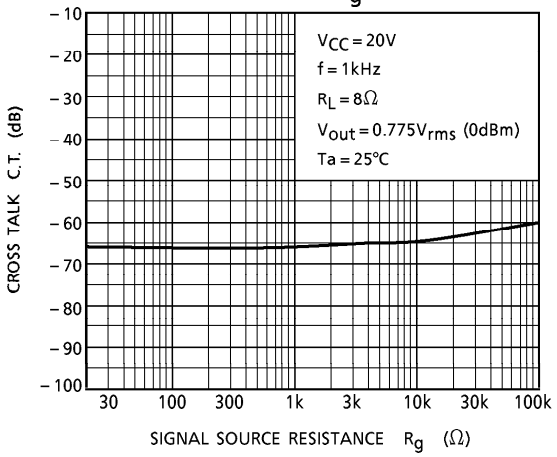
THD – f



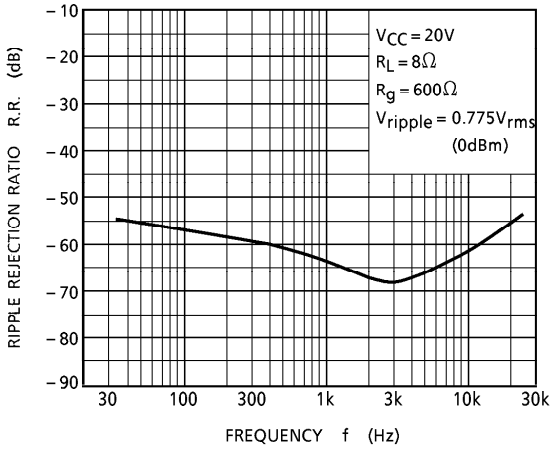
C.T. – f



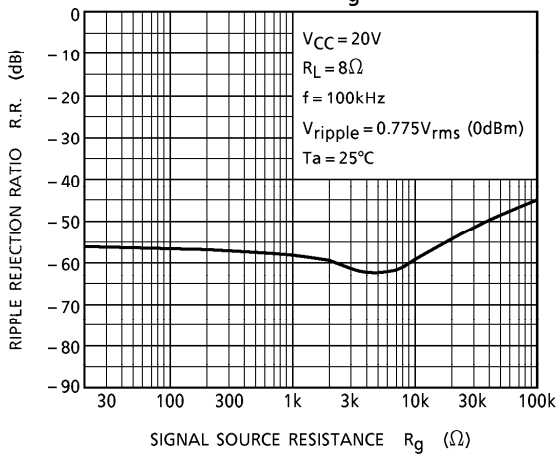
C.T. – R_g



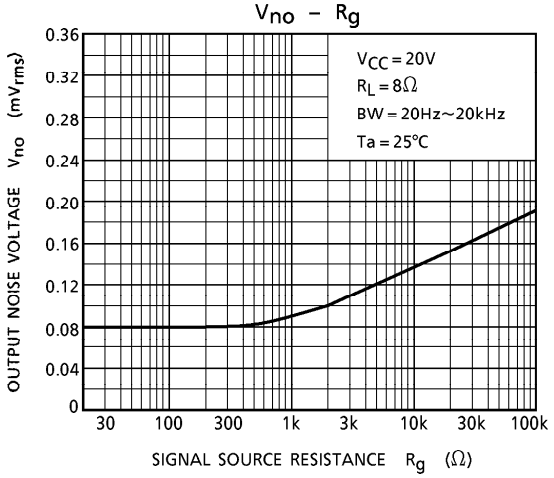
R.R. – f



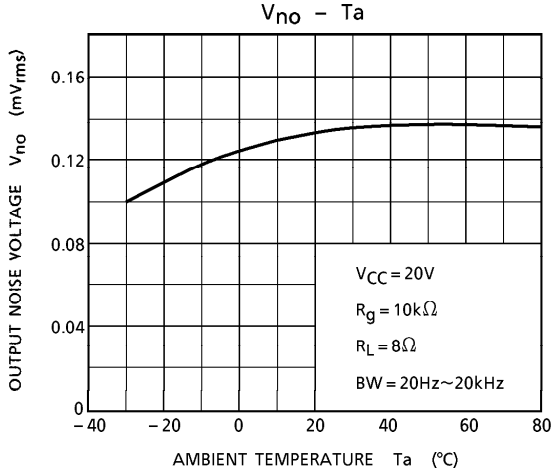
R.R. – R_g



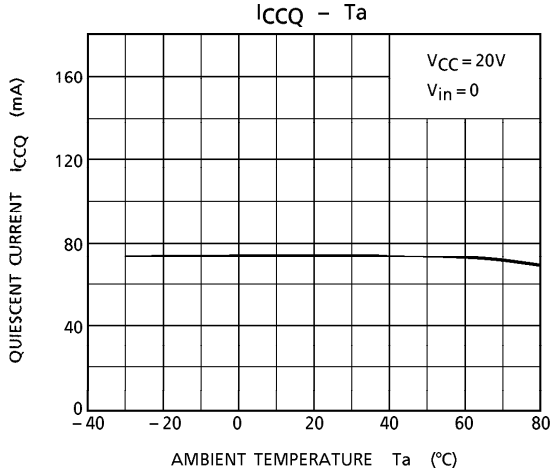
V_{no} – R_g



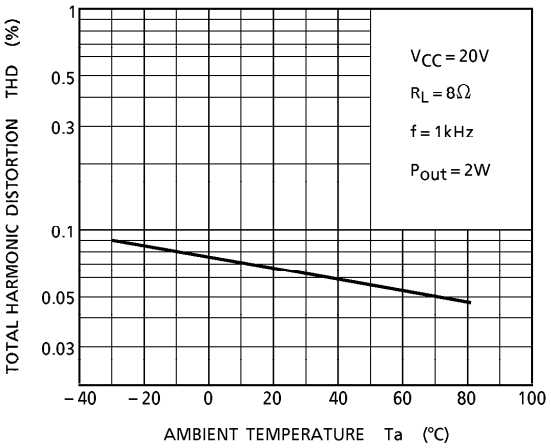
V_{no} – Ta



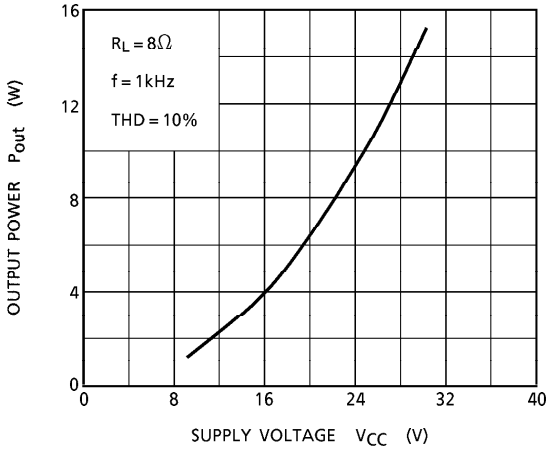
I_{CCQ} – Ta



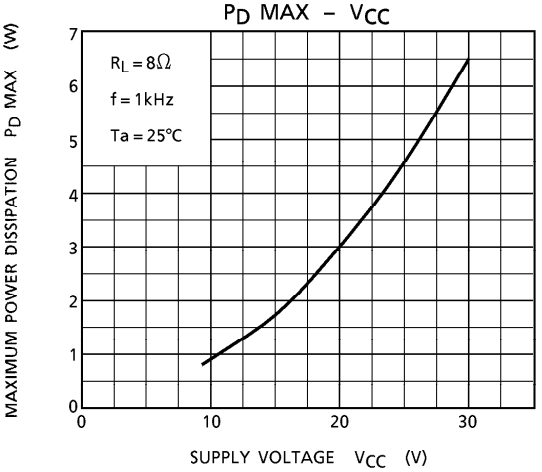
THD – Ta



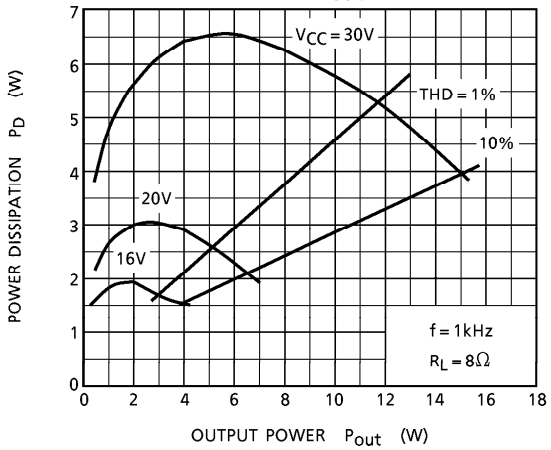
P_{out} – V_{CC}



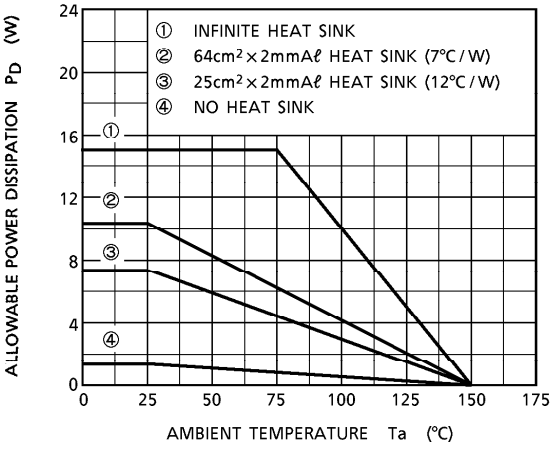
P_D MAX – V_{CC}



P_D – P_{out}



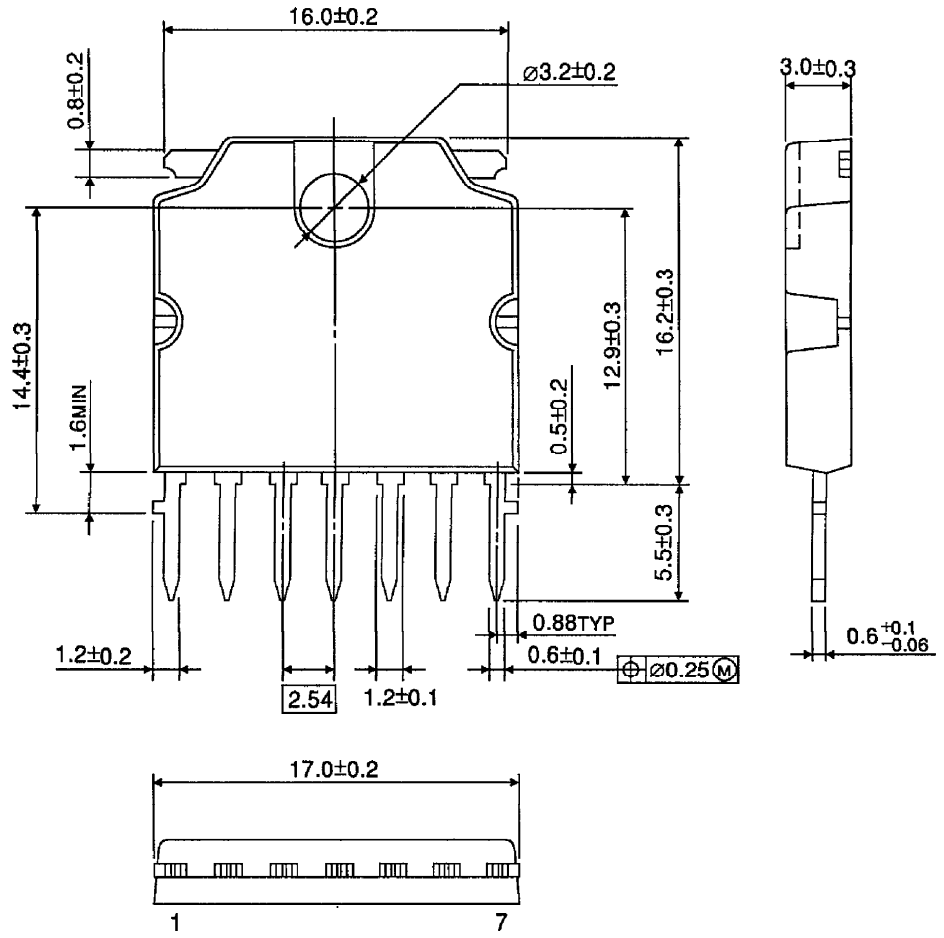
P_D – Ta



OUTLINE DRAWING

HSIP7-P-2.54B

Unit : mm



Weight : 2.19g (Typ.)