

# TA8213K

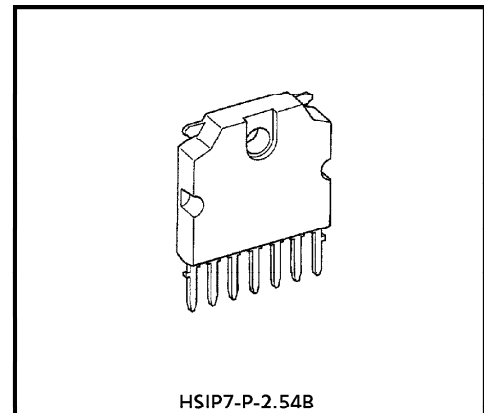
## AUDIO POWER AMPLIFIER

The TA8213K is audio power amplifier for consumer applications.

This IC provides an output power of 6W (at  $V_{CC} = 20V$ ,  $R_L = 8\Omega$ ,  $f = 1kHz$ ,  $THD = 10\%$ ), it is suitable for power amplifier of TV.

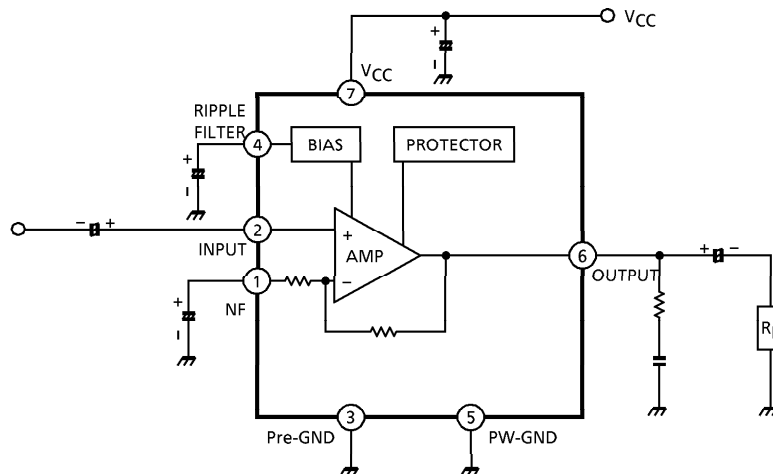
### FEATURES

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



Weight : 2.19g (Typ.)

### BLOCK DIAGRAM



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**MAXIMUM RATINGS** (Ta = 25°C)

| CHARACTERISTIC        | SYMBOL                | RATING   | UNIT |
|-----------------------|-----------------------|----------|------|
| Supply Voltage        | V <sub>CC</sub>       | 30       | V    |
| Output Current        | I <sub>O</sub> (peak) | 2        | A    |
| Power Dissipation     | P <sub>D</sub> (Note) | 15       | W    |
| Operating Temperature | T <sub>opr</sub>      | - 20~75  | °C   |
| Storage Temperature   | T <sub>stg</sub>      | - 55~150 | °C   |

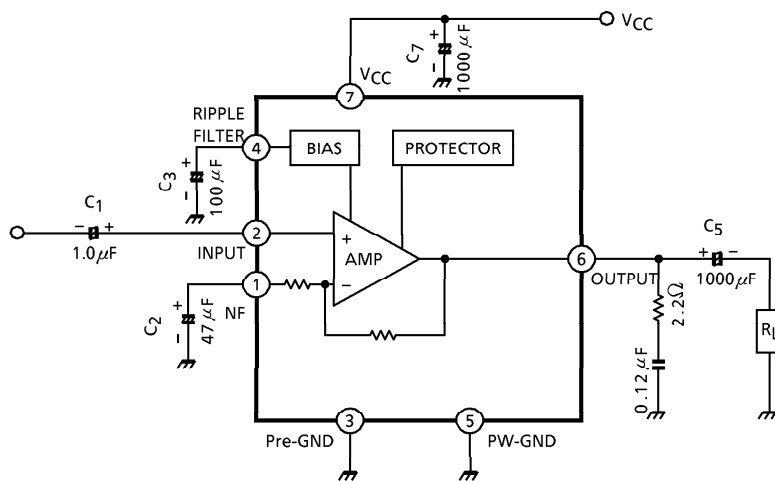
(Note) Derated above Ta = 25°C in the proportion of 120mW/°C.

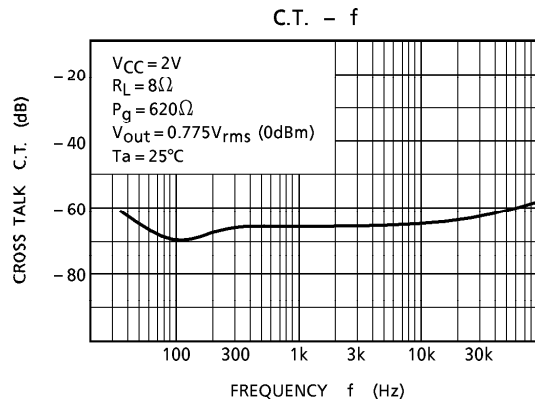
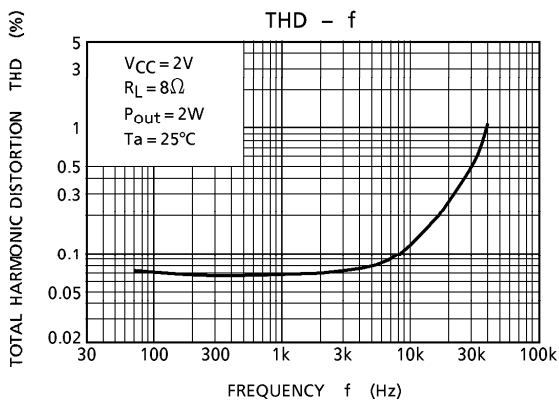
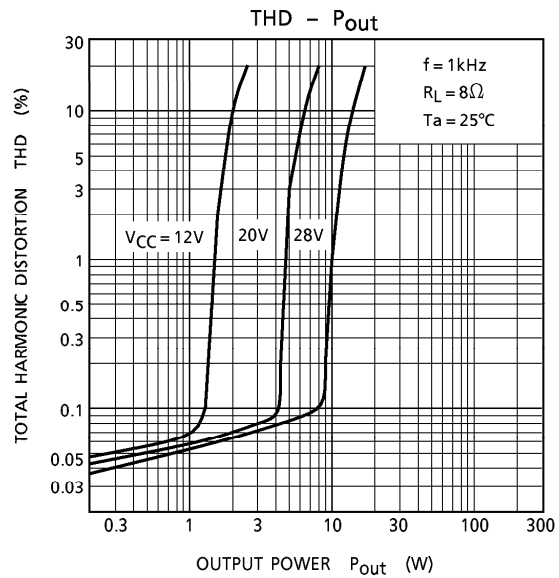
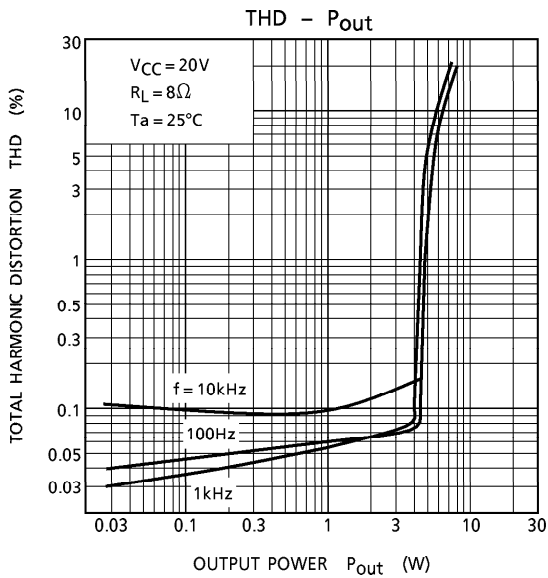
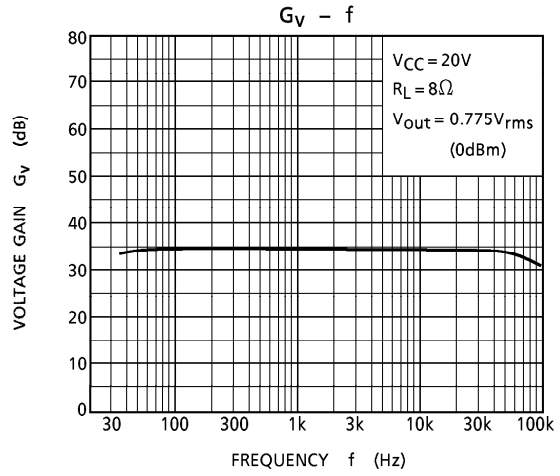
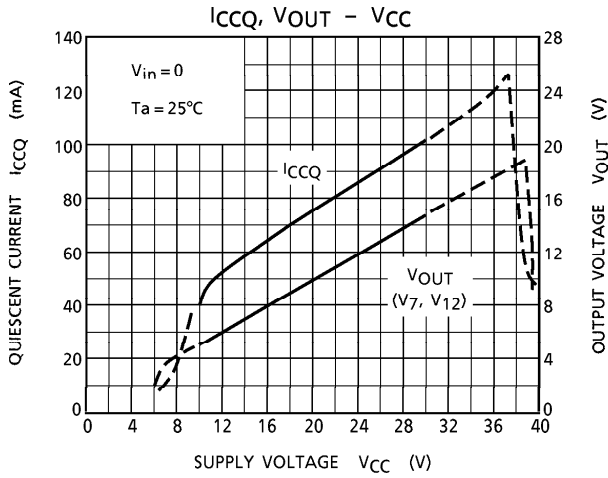
**ELECTRICAL CHARACTERISTICS**

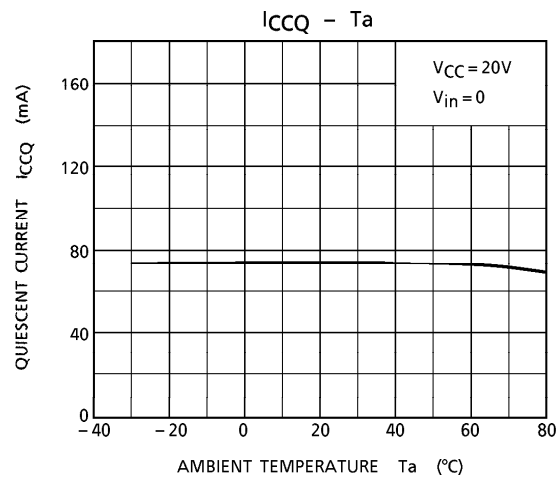
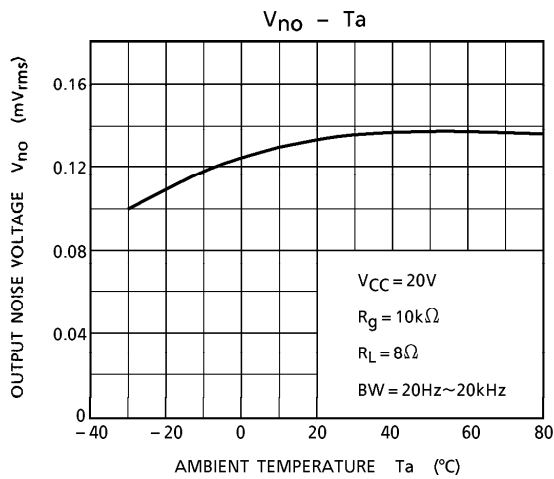
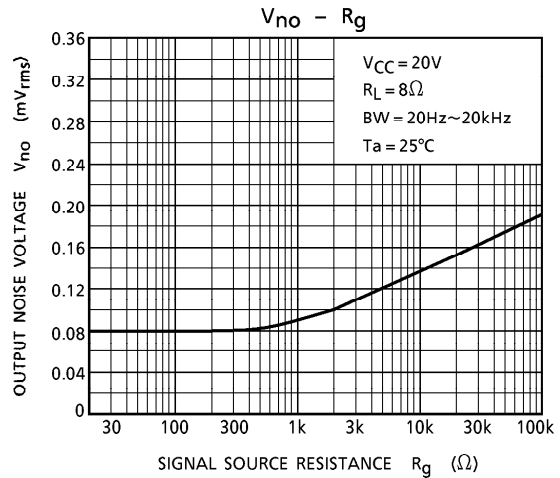
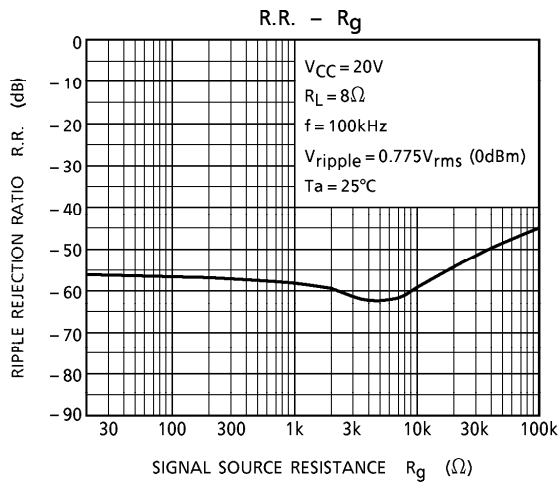
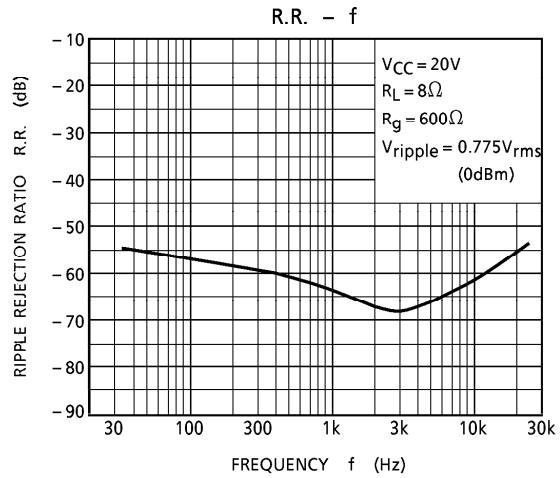
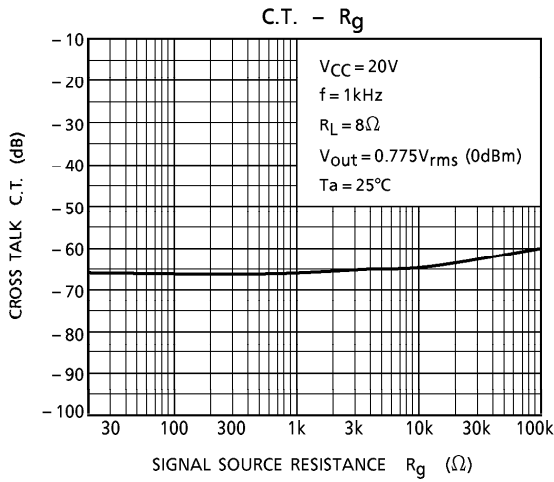
(Unless otherwise specified, V<sub>CC</sub> = 20V, R<sub>L</sub> = 8Ω, R<sub>G</sub> = 600Ω, f = 1kHz, Ta = 25°C)

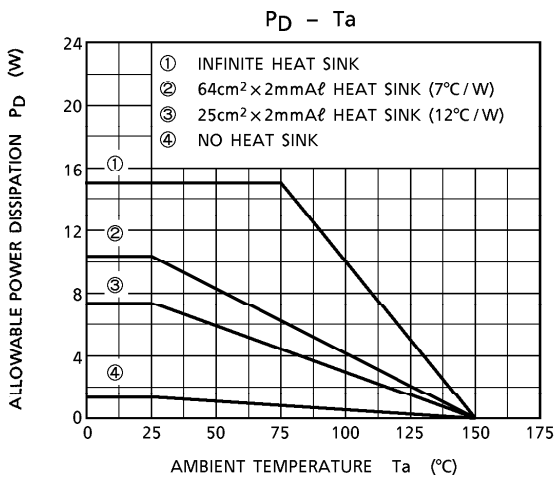
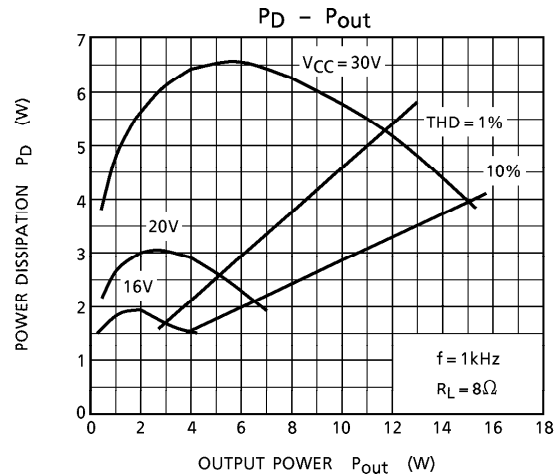
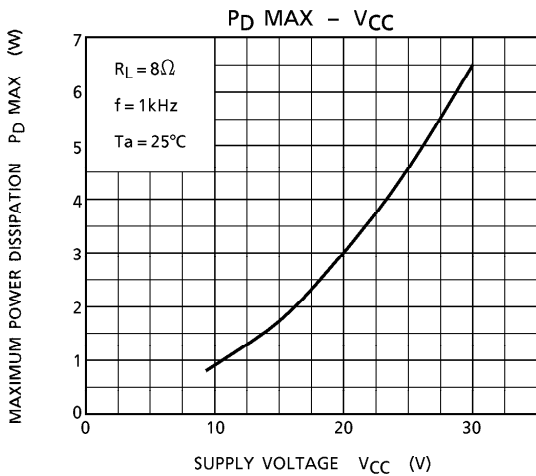
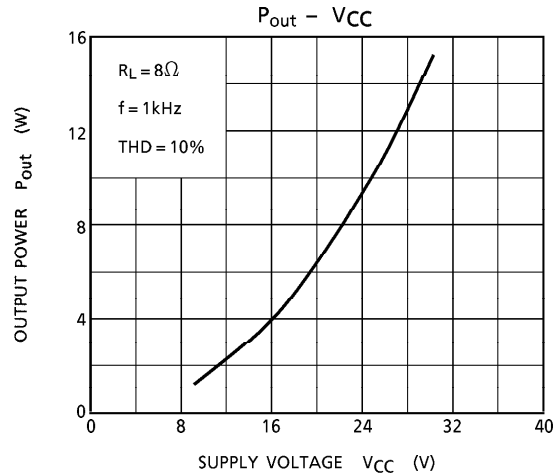
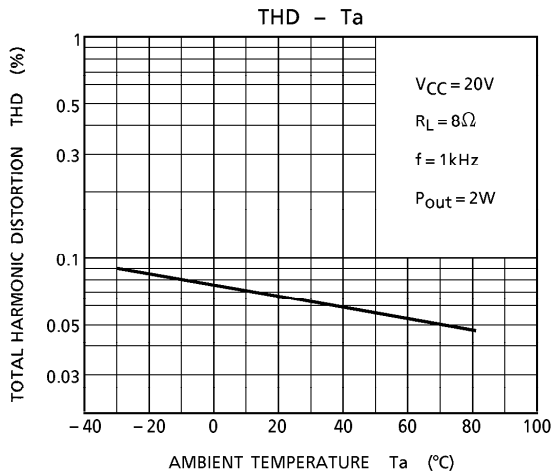
| CHARACTERISTIC            | SYMBOL               | TEST CIRCUIT | TEST CONDITION  | MIN. | TYP. | MAX. | UNIT              |
|---------------------------|----------------------|--------------|---|------|------|------|-------------------|
| Quiescent Current         | I <sub>CCQ</sub>     | —            | V <sub>in</sub> = 0   | —    | 45   | 65   | mA                |
| Output Power              | P <sub>out</sub> (1) | —            | THD = 10%   | 5.0  | 6.0  | —    | W                 |
|                           | P <sub>out</sub> (2) | —            | THD = 1%  | —    | 4.5  | —    |                   |
| Total Harmonic Distortion | THD                  | —            | P <sub>OUT</sub> = 2W   | —    | 0.1  | 0.7  | %                 |
| Voltage Gain              | G <sub>V</sub>       | —            | V <sub>OUT</sub> = 0.775V <sub>rms</sub> (0dBm)   | 32.5 | 34.0 | 35.5 | dB                |
| Input Resistance          | R <sub>IN</sub>      | —            |   | —    | 30   | —    | kΩ                |
| Ripple Rejection Ratio    | R.R.                 | —            | R <sub>G</sub> = 0, f <sub>ripple</sub> = 100Hz<br>V <sub>ripple</sub> = 0.775V <sub>rms</sub> (0dBm) | - 45 | - 57 | —    | dB                |
| Output Noise Voltage      | V <sub>no</sub>      | —            | R <sub>G</sub> = 10kΩ<br>BW = 20Hz~20kHz  | —    | 0.14 | 0.3  | mV <sub>rms</sub> |

**TEST CIRCUIT**



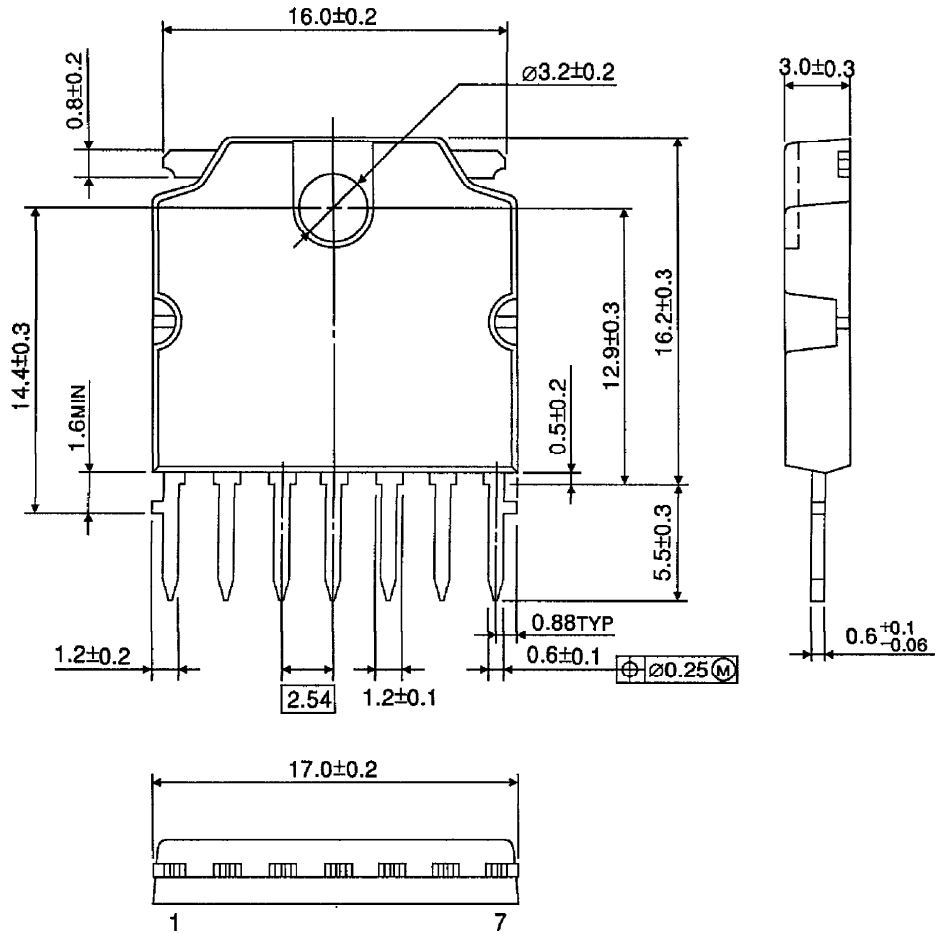






OUTLINE DRAWING  
HSIP7-P-2.54B

Unit : mm



Weight : 2.19g (Typ.)