

**STK4352**

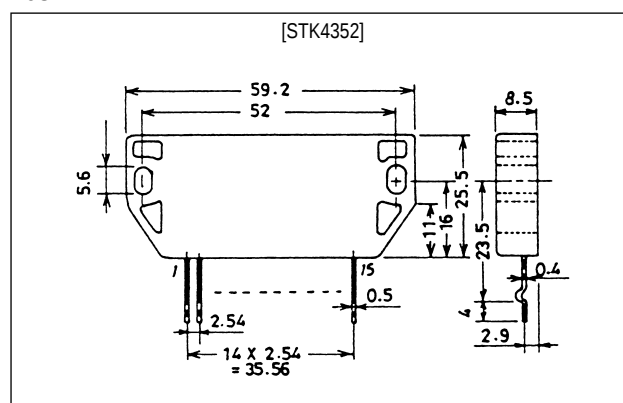
## AF Power Amplifier (7W + 7W min, THD = 1.0%)

### Features

- Small and slim package with 25.5mm height.
- Capable of guaranteeing substrate temperature 125°C, thereby reducing heat sink.
- Excellent cost performance.

### Package Dimensions

unit: mm

**4032**

### Specifications

Maximum Ratings at  $T_a = 25^\circ\text{C}$ 

| Parameter                             | Symbol         | Conditions                                                                      | Ratings     | Unit               |
|---------------------------------------|----------------|---------------------------------------------------------------------------------|-------------|--------------------|
| Maximum supply voltage                | $V_{CC}$ max   | Pin 4 to 7, 12                                                                  | 39          | V                  |
| Thermal resistance                    | $\theta_{j-c}$ | One power transistor                                                            | 7           | $^\circ\text{C/W}$ |
| Junction temperature                  | $T_j$          |                                                                                 | 150         | $^\circ\text{C}$   |
| Operating substrate temperature       | $T_c$          |                                                                                 | 125         | $^\circ\text{C}$   |
| Storage temperature                   | $T_{stg}$      |                                                                                 | -30 to +125 | $^\circ\text{C}$   |
| Available time for load short-circuit | $t_s$          | $V_{CC} = 27\text{V}$ , $R_L = 8\Omega$ , $P_o = 7\text{W}$ , $f = 50\text{Hz}$ | 2           | s                  |

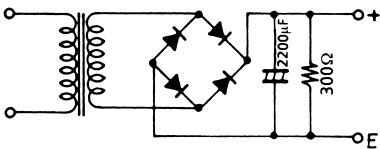
Recommended Operating Conditions at  $T_a = 25^\circ\text{C}$ 

| Parameter                  | Symbol   | Conditions | Ratings | Unit     |
|----------------------------|----------|------------|---------|----------|
| Recommended supply voltage | $V_{CC}$ |            | 27      | V        |
| Load resistance            | $R_L$    |            | 8       | $\Omega$ |

**Operating Characteristics** at  $T_a = 25^{\circ}\text{C}$ ,  $V_{CC} = 27\text{V}$ ,  $R_L = 8\Omega$ ,  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$ , at specified Test Circuit (based on Sample Application Circuit).

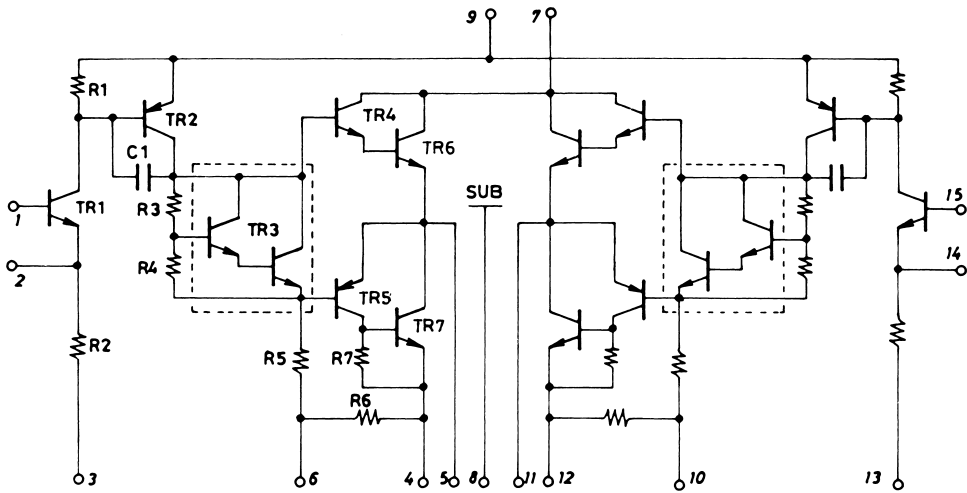
| Parameter                 | Symbol     | Conditions                                        | min | typ       | max | Unit     |
|---------------------------|------------|---------------------------------------------------|-----|-----------|-----|----------|
| Quiescent current         | $I_{CCO}$  | $V_{CC} = 33\text{V}$                             | 20  | 60        | 120 | mA       |
| Output power              | $P_O(1)$   | THD = 1.0%, $f = 1\text{kHz}$                     | 7   |           |     | W        |
|                           | $P_O(2)$   | THD = 1.0%,<br>$f = 40\text{Hz to } 20\text{kHz}$ | 3.5 |           |     | W        |
| Total harmonic distortion | THD        | $P_O = 0.1\text{W}$ , $f = 1\text{kHz}$           |     |           | 0.5 | %        |
| Frequency response        | $f_L, f_H$ | $P_O = 0.1\text{W}$ , $+0_{-3}\text{ dB}$         |     | 40 to 50k |     | Hz       |
| Input impedance           | $r_i$      | $P_O = 0.1\text{W}$ , $f = 1\text{kHz}$           |     | 110k      |     | $\Omega$ |
| Output noise voltage      | $V_{NO}$   | $V_{CC} = 33\text{V}$ , $R_g = 10\text{k}\Omega$  |     |           | 0.8 | mVrms    |

Notes. Unless otherwise specified for the power supply at the time of test, use the constant voltage power supply.  
When testing the available time for load short-circuit and output noise voltage, use the specified transformer as shown right.  
The output noise voltage is the peak value on the mean value indicating rms reading (VTVM), and should not involve impulse noise.

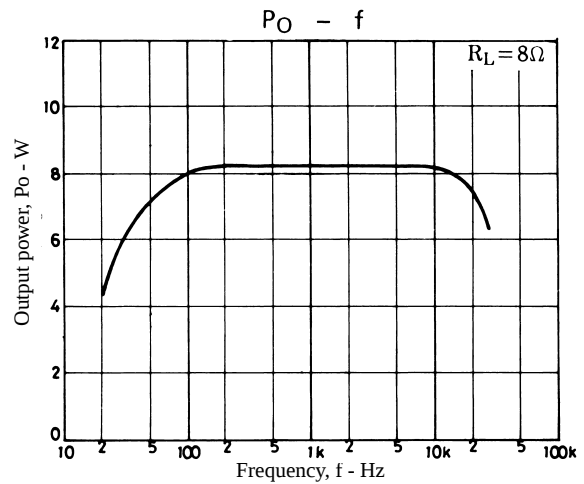
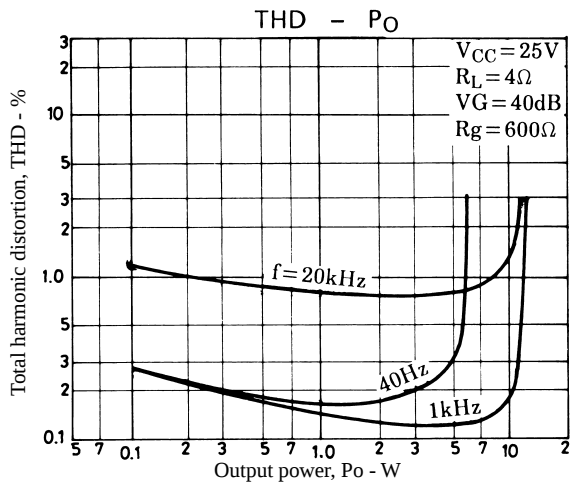
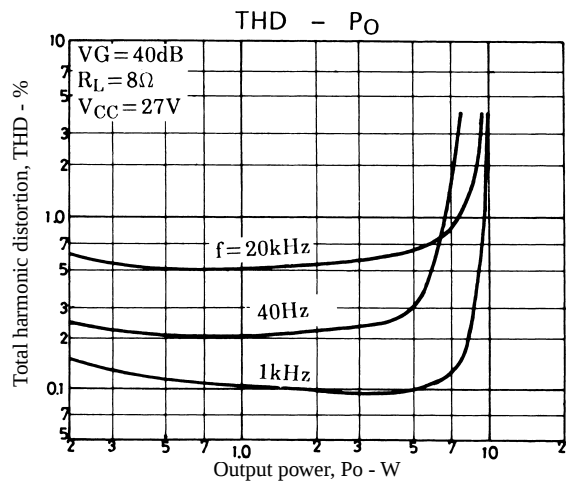
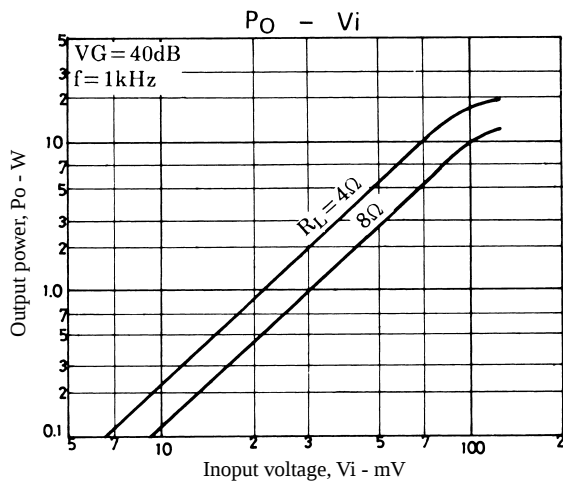
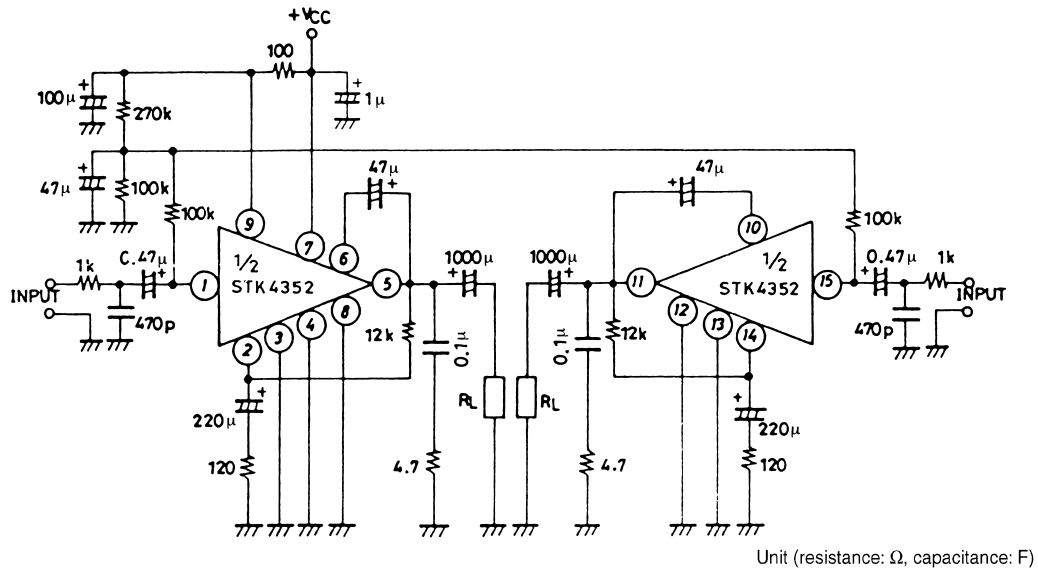


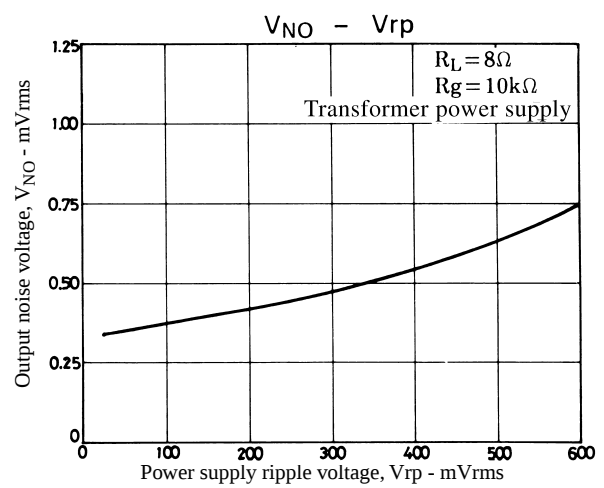
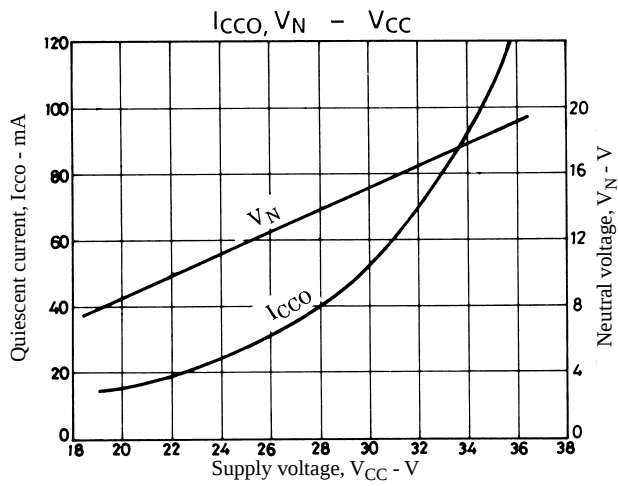
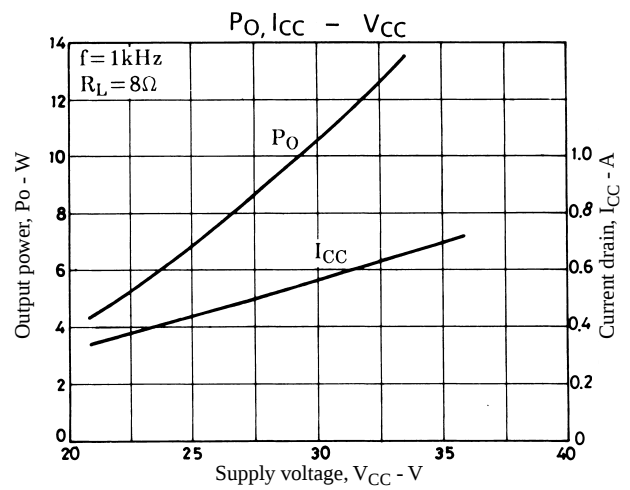
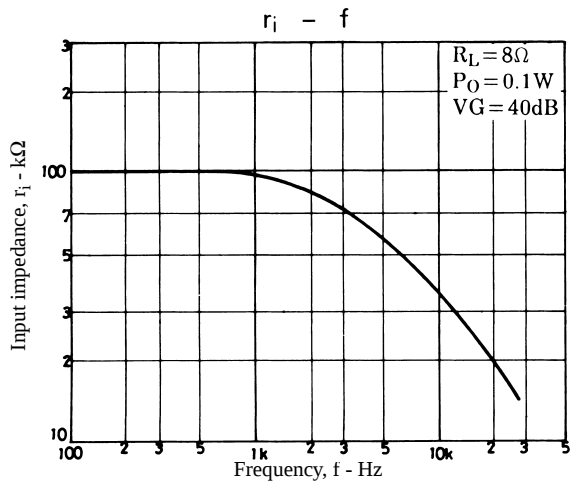
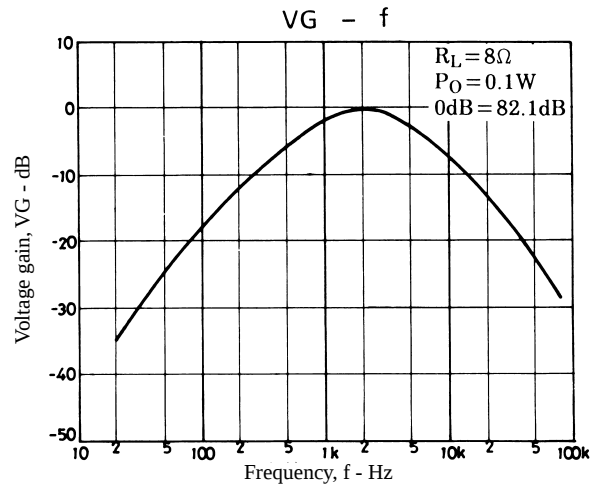
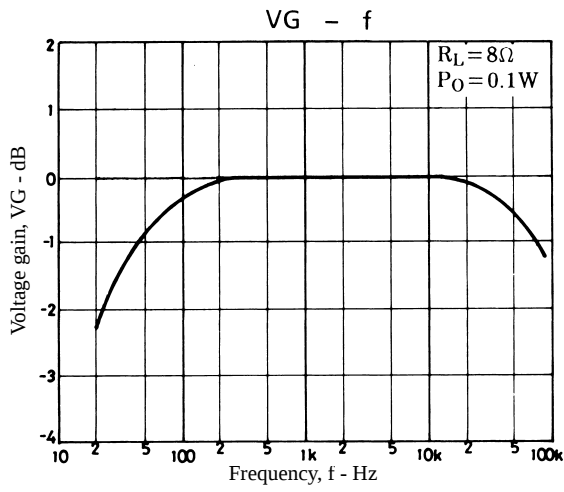
Specified Transformer Power Supply  
(Equivalent to RP-22)

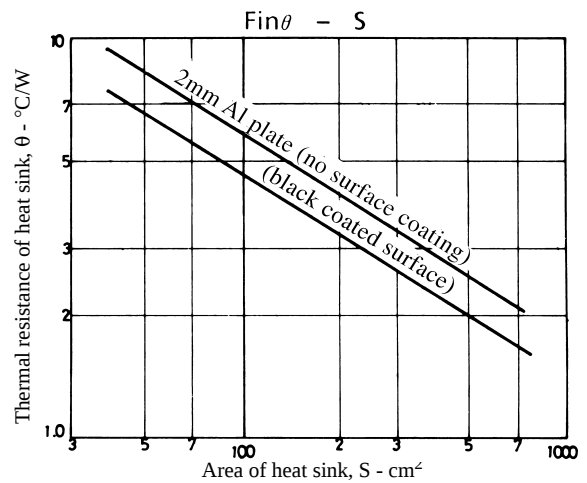
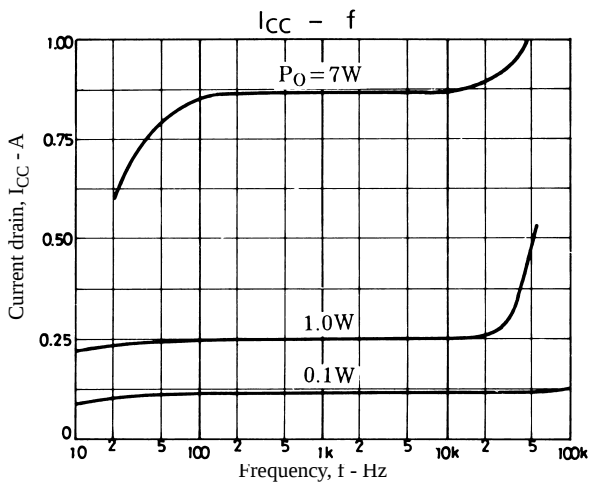
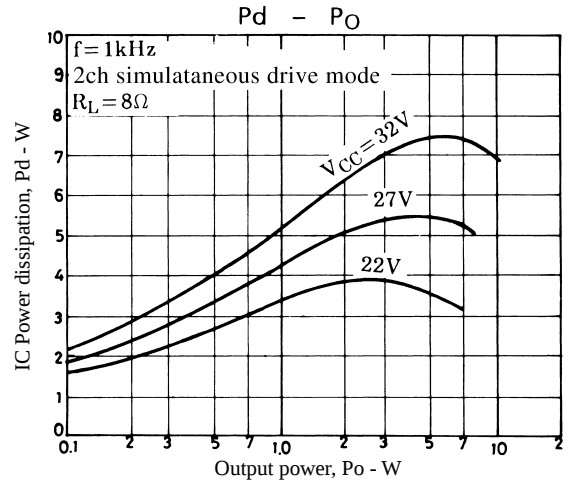
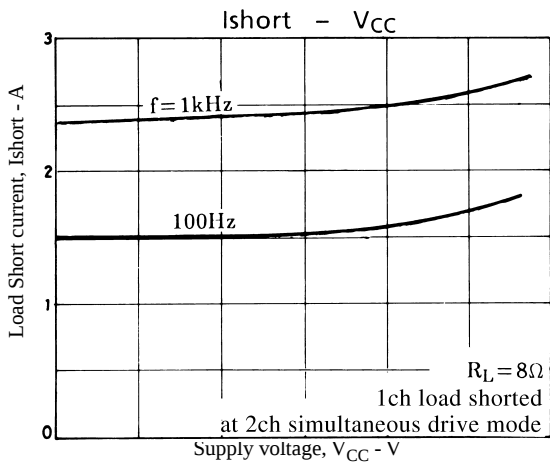
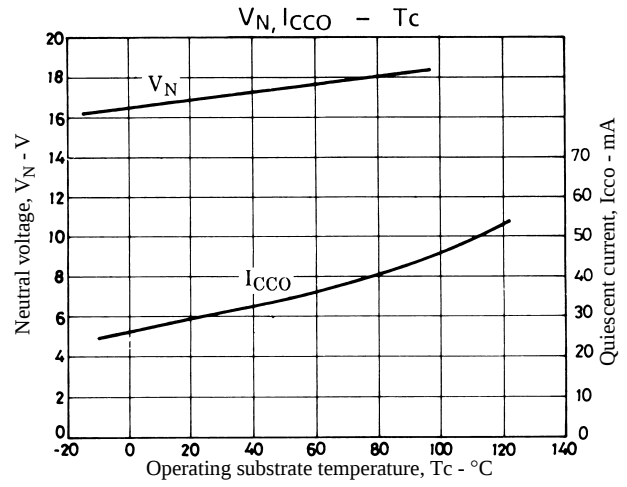
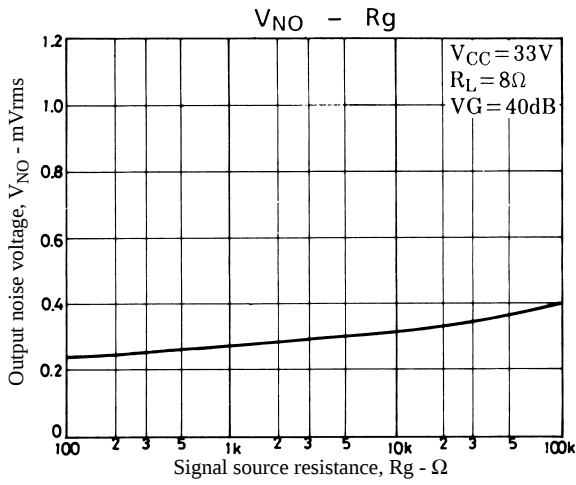
**Equivalent Circuit**

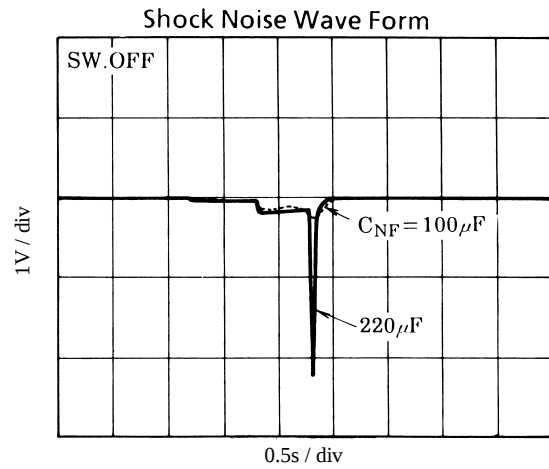
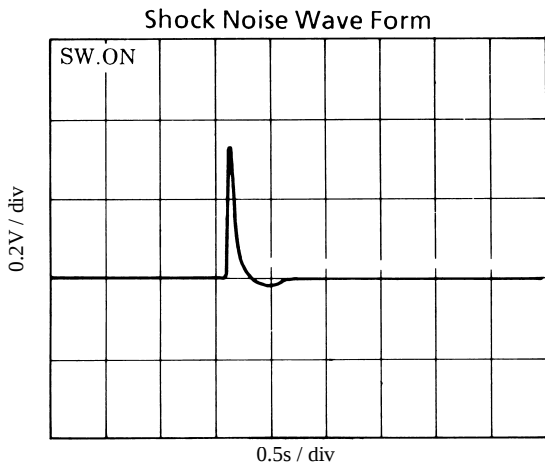


# Sample Application Circuit: 7W min 2-channel AF power amplifier









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