

AN5260

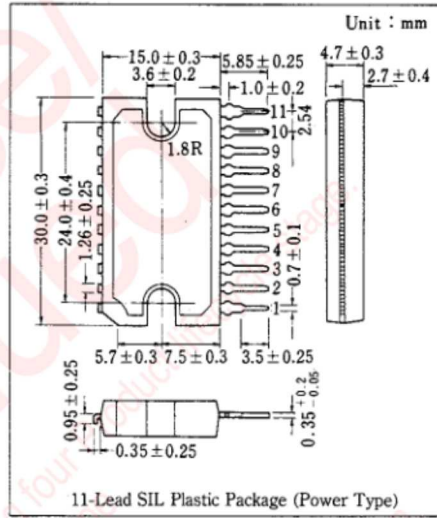
TV Sound Output Circuit

Outline

The AN5260 is an integrated circuit designed for TV sound output circuit.

Features

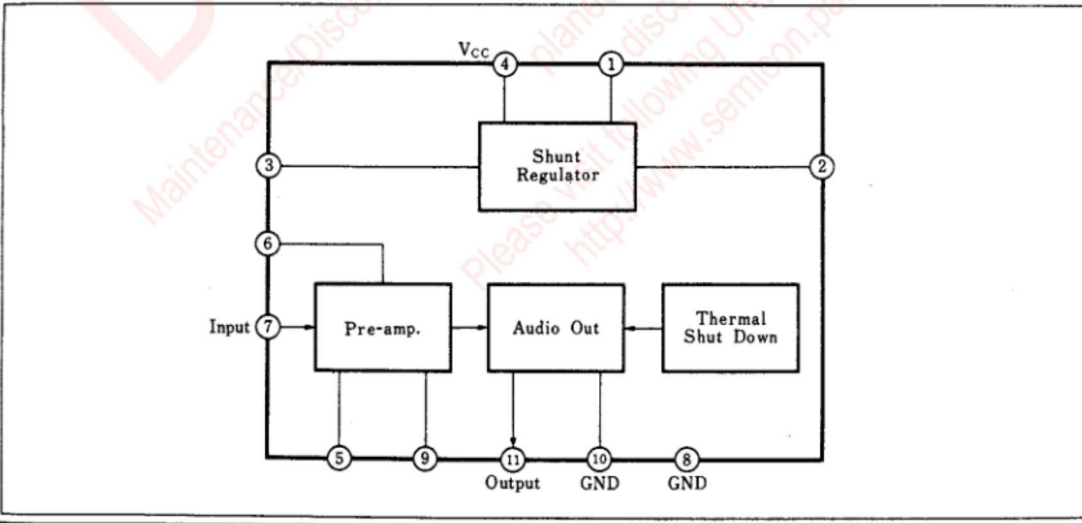
- Built-in shunt regulator
- Low distortion and maximum 6.6W power output
- 24V supply operation
- Compact 11-lead single-in-line plastic package



Pin

| Pin No. | Pin Name | Pin No. | Pin Name |
|---------|------------------------|---------|------------------------|
| 1 | Shunt Regulator | 7 | Sound Input |
| 2 | Shunt Current | 8 | GND |
| 3 | Filter | 9 | Phase Compensation (2) |
| 4 | V _{cc} | 10 | GND |
| 5 | Phase Compensation (1) | 11 | Sound Output |
| 6 | Filter | — | — |

Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

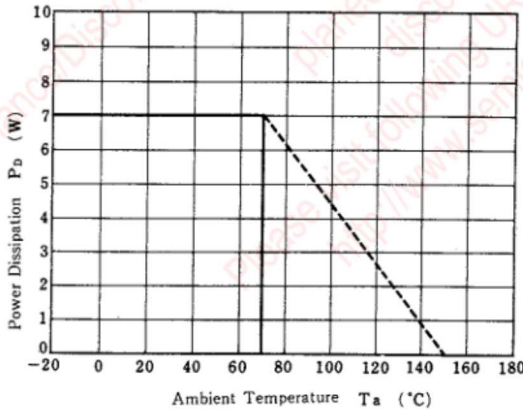
| Item | Symbol | Rating | Unit | |
|-----------------------------|-------------------------------|--------------------|----------|----|
| Voltage | Supply Voltage | V ₄₋₈₁₀ | 26.4 | V |
| | Circuit Voltage | V ₁₋₈₁₀ | 0, 26.4 | V |
| Current | Circuit Current | I ₂ | 0, 3 | A |
| | | I ₁₁ | -3, 3 | A |
| Power Dissipation (Ta=70°C) | P _D | 7.0 | W | |
| Temperature | Operating Ambient Temperature | T _{opr} | -20~+70 | °C |
| | Storage Temperature | T _{sta} | -55~+150 | °C |

Note: ⊕ and ⊖ are flow-in and flow-out currents to/from the circuit, respectively.

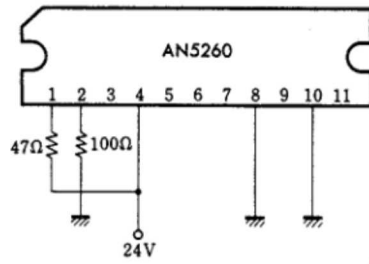
■ Electrical Characteristics (Ta=25°C)

| Item | Symbol | Test Circuit | Condition | min. | typ. | max. | Unit |
|--|-----------------------|--------------|--|------|------|------|-------------------|
| Total Circuit Current | I _{tot} | 1 | | 50 | 61 | 72 | mA |
| Current Voltage | V ₁₋₈₍₁₀₎ | 1 | | 20.8 | 21.4 | 22.0 | V |
| | V ₇₋₈₍₁₀₎ | 2 | | 0.9 | 1.4 | 2.0 | V |
| Circuit Voltage (Center Voltage) | V ₁₁₋₈₍₁₀₎ | 2 | V ₁₋₈₍₁₀₎ =24V | 10.8 | 11.8 | 12.8 | V |
| Circuit Voltage (I _{cq} measured) | V ₁₀₋₈ | 2 | V ₁₋₈₍₁₀₎ =24V | 60 | 220 | 350 | mV |
| Voltage Gain | G _v | 3 | f=1kHz, V _i =30mV _{rms} (Pin⑦) | 37 | 39 | 41 | dB |
| Output Power (max.) | P _o | 3 | f=1kHz, THD=10% | 6.0 | 6.6 | | W |
| Total Harmonic Distortion | THD | 3 | f=1kHz, P _o =3W | | 0.6 | 1.7 | % |
| Output Noise Voltage | V _{no} | 3 | Connected to AF input terminal with 10kΩ | | 2 | 10 | mV _{rms} |
| Output Voltage (HAM) | V _{O(HAM)} | 3 | f=60Hz, V _i =0.3V _{rms} | | | 50 | mV _{rms} |
| Current Change | ΔI ₄ | 3 | V _i =0V, V _i =100mV _{rms} | 0 | 12 | 30 | mA |
| Frequency Band Width | B | 3 | -3dB point, V _i =30mV _{rms} | 100 | 350 | | kHz |

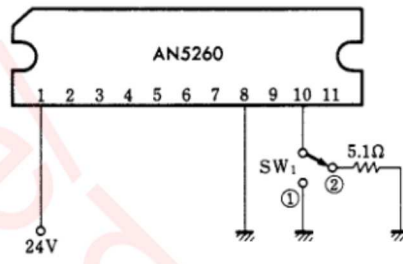
P_D-T_a



Test Circuit 1 (I_{tot} , $V_{1-8(10)}$)

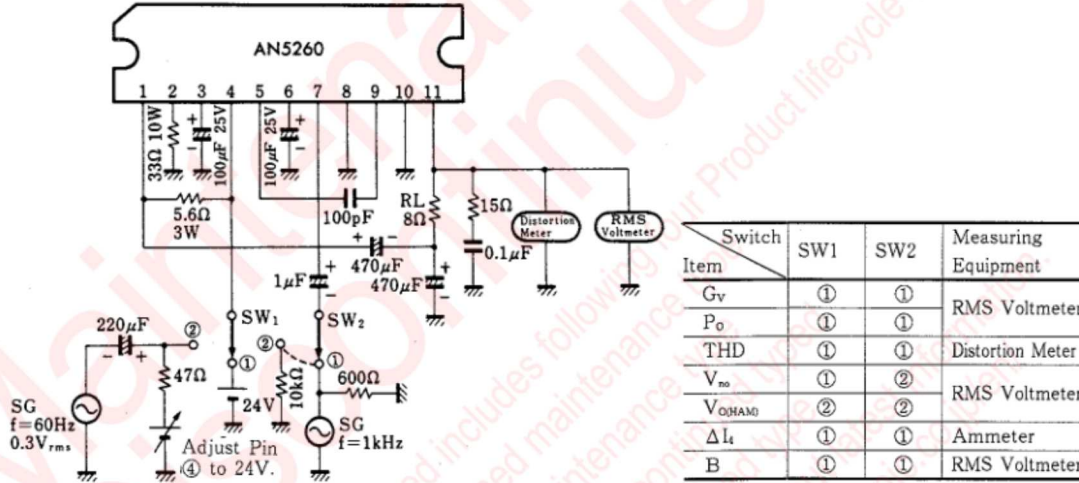


Test Circuit 2 ($V_{7-8(10)}$, $V_{11-8(10)}$, V_{10-8})

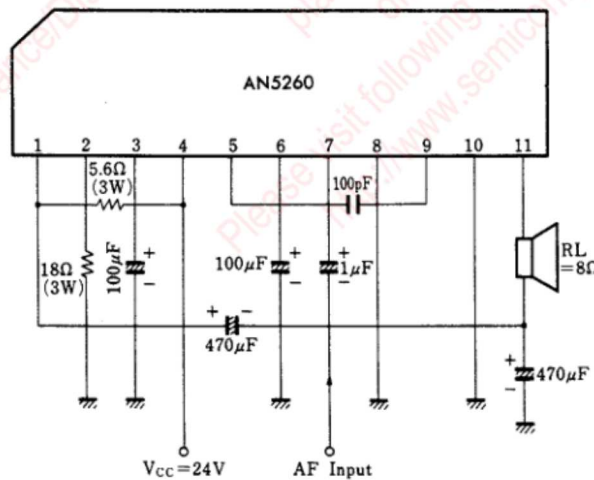


V_{7-8} SW1 ① V_{11-8} SW1 ②

Test Circuit 3 (G_v , P_o , THD, V_{no} , $V_{O(CHAM)}$, ΔI_t , B)



Application Circuit



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