

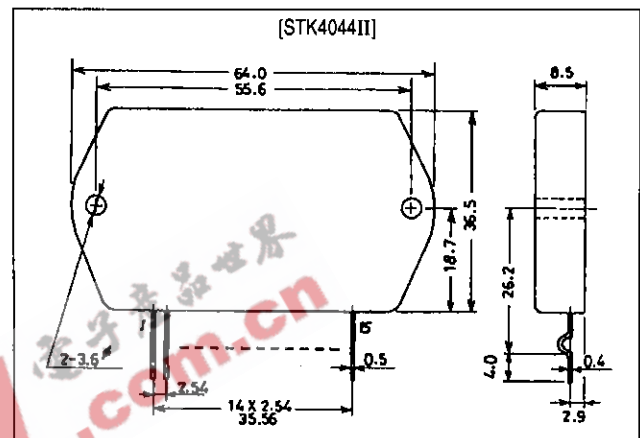
**STK4044II**
**AF Power Amplifier (Split Power Supply)**  
**(100W min, THD = 0.4%)**
**Features**

- Compact package for thin-type audio sets
- Member of pin-compatible series with outputs of 20 to 200W
- Easy heatsink design to disperse heat generated in thin-type stereo sets
- Constant-current circuit to reduce supply switch-on and switch-off shock noise
- External supply switch-on and switch-off shock noise muting, load short-circuit protection, thermal shutdown and other circuits can be tailored-designed.

**Package Dimensions**

unit: mm

4075

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

| Parameter  | Symbol               | Conditions   | Rated       | Unit               |
|--|----------------------|--|-------------|--------------------|
| Maximum supply voltage                             | $V_{CC \text{ max}}$ |  | $\pm 73$    | V                  |
| Thermal resistance                                 | $\theta_{j-c}$       |  | 1.1         | $^\circ\text{C/W}$ |
| 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 <sup>1</sup> | $t_s$                | $V_{CC} = \pm 51\text{V}$ , $R_L = 8\Omega$ ,<br>$f = 50\text{Hz}$ , $P_O = 100\text{W}$ | 1           | s                  |

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

| Parameter                  | Symbol   | Conditions | Rated    | Unit     |
|----------------------------|----------|------------|----------|----------|
| Recommended supply voltage | $V_{CC}$ |            | $\pm 51$ | V        |
| Load resistance            | $R_L$    |            | 8        | $\Omega$ |

## STK4044II

**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 51\text{V}$ ,  $R_L = 8\Omega$  (noninductive load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$

| Parameter                         | Symbol     | Conditions                                      | min | typ       | max | Unit      |
|-----------------------------------|------------|---|-----|-----------|-----|-----------|
| Quiescent current                 | $I_{CCO}$  | $V_{CC} = \pm 61\text{V}$                       | 15  | -         | 120 | mA        |
| Output power                      | $P_O$      | THD = 0.4%, $f = 20\text{Hz}$ to $20\text{kHz}$ | 100 | -         | -   | W         |
| Total harmonic distortion         | THD        | $P_O = 1.0\text{W}$ , $f = 1\text{kHz}$         | -   | -         | 0.3 | %         |
| Frequency response                | $f_L, f_H$ | $P_O = 1.0\text{W}$ , $\pm 3\text{dB}$          | -   | 20 to 50k | -   | Hz        |
| Input impedance                   | $r_i$      | $P_O = 1.0\text{W}$ , $f = 1\text{kHz}$         | -   | 55        | -   | $k\Omega$ |
| Output noise voltage <sup>2</sup> | $V_{NO}$   | $V_{CC} = \pm 61\text{V}$ , $R_g = 10k\Omega$   | -   | -         | 1.2 | mVrms     |
| Neutral voltage                   | $V_N$      | $V_{CC} = \pm 61\text{V}$                       | -70 | 0         | +70 | mV        |

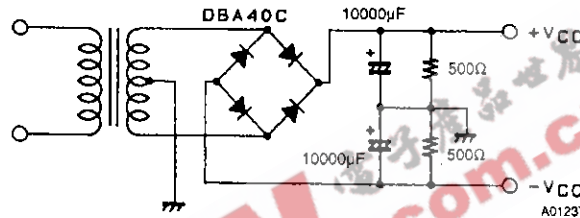
**Notes.**

All tests are measured using a constant-voltage supply unless otherwise specified.

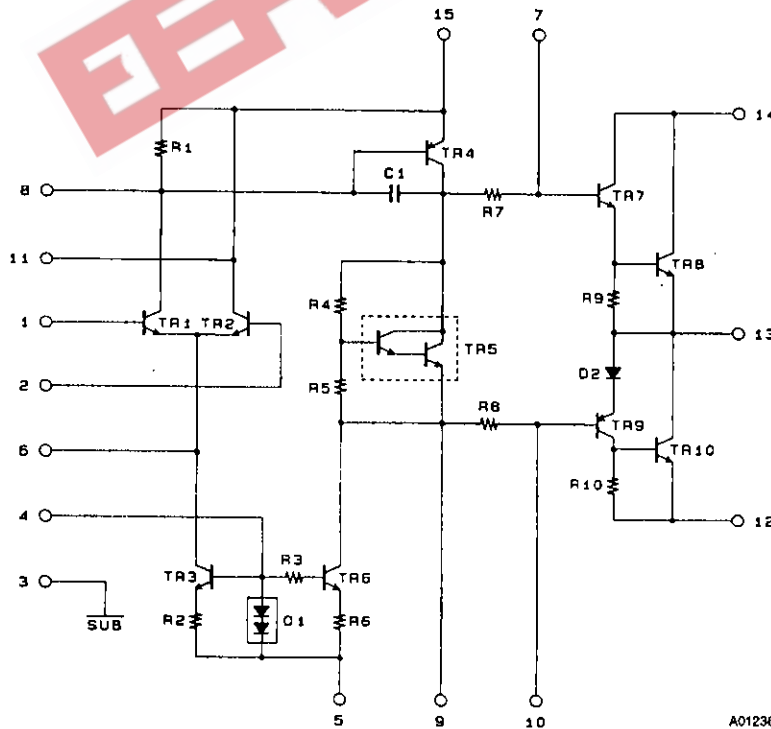
1. Output noise voltage is measured using the transformer supply specified below.

2. The output noise voltage is the peak value of an average-reading meter with an rms value scale. The noise voltage waveform does not include any pulse noise.

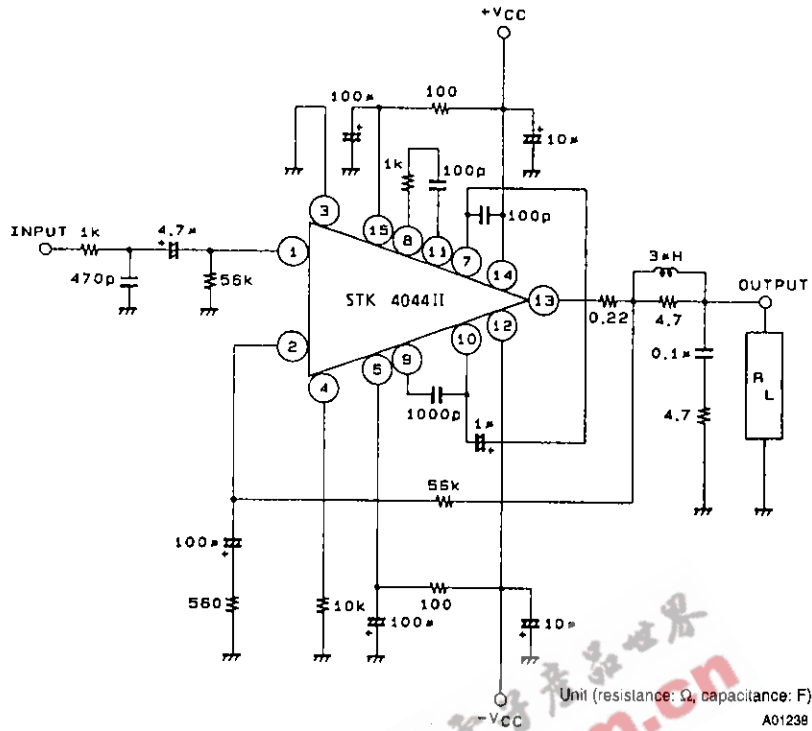
**Specified Transformer Supply (MG-200 or Equivalent)**



**Equivalent Circuit**



Sample Application Circuit (100W min AF Power Amplifier)



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