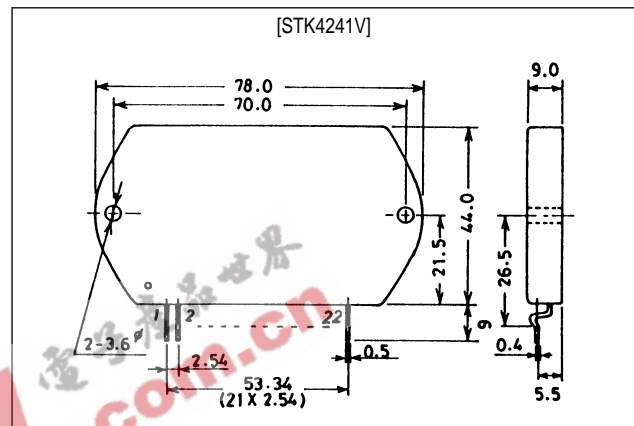


**STK4241V**
**AF Power Amplifier (Split Power Supply)**  
**(120W+120W min, THD = 0.08%)**
**Features**

- Muting circuit built-in to isolate all types of shock noise
- Current mirror circuit for low 0.08% total harmonic distortion
- Pin compatible with the STK4201II series (THD = 0.4%) and the STK4141X series (THD = 0.02%)

**Package Dimensions**

unit: mm

**4086A****Specifications****Maximum Ratings** at  $T_a = 25^\circ\text{C}$ 

| Parameter  | Symbol               | Conditions   | Ratings     | Unit               |
|--|----------------------|--|-------------|--------------------|
| Maximum supply voltage                             | $V_{CC \text{ max}}$ |  | $\pm 78$    | 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> | $t_s$                | $V_{CC} = \pm 54\text{V}$ , $R_L = 8\Omega$ ,<br>$f = 50\text{Hz}$ , $P_O = 120\text{W}$ | 1           | s                  |

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

| Parameter                  | Symbol   | Conditions | Ratings  | Unit     |
|----------------------------|----------|------------|----------|----------|
| Recommended supply voltage | $V_{CC}$ |            | $\pm 54$ | V        |
| Load resistance            | $R_L$    |            | 8        | $\Omega$ |

## STK4241V

**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 54\text{V}$ ,  $R_L = 8\Omega$  (noninductive load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$

| Parameter                         | Symbol     | Conditions                                       | min | typ       | max  | Unit      |
|-----------------------------------|------------|--|-----|-----------|------|-----------|
| Quiescent current                 | $I_{CCO}$  | $V_{CC} = \pm 66\text{V}$                        | 20  | 40        | 100  | mA        |
| Output power                      | $P_O$      | THD = 0.08%, $f = 20\text{Hz}$ to $20\text{kHz}$ | 120 | –         | –    | W         |
| Total harmonic distortion         | THD        | $P_O = 1.0\text{W}$ , $f = 1\text{kHz}$          | –   | –         | 0.08 | %         |
| Frequency response                | $f_L, f_H$ | $P_O = 1.0\text{W}$ , $+0_{-3}\text{dB}$         | –   | 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> | $V_{NO}$   | $V_{CC} = \pm 66\text{V}$ , $R_g = 10k\Omega$    | –   | –         | 1.2  | mVrms     |
| Neutral voltage                   | $V_N$      | $V_{CC} = \pm 66\text{V}$                        | –70 | 0         | +70  | mV        |
| Muting voltage                    | $V_M$      |  | –2  | –5        | –10  | V         |

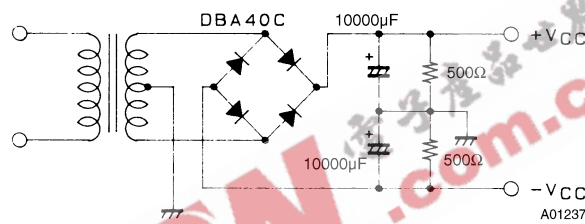
**Notes.**

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

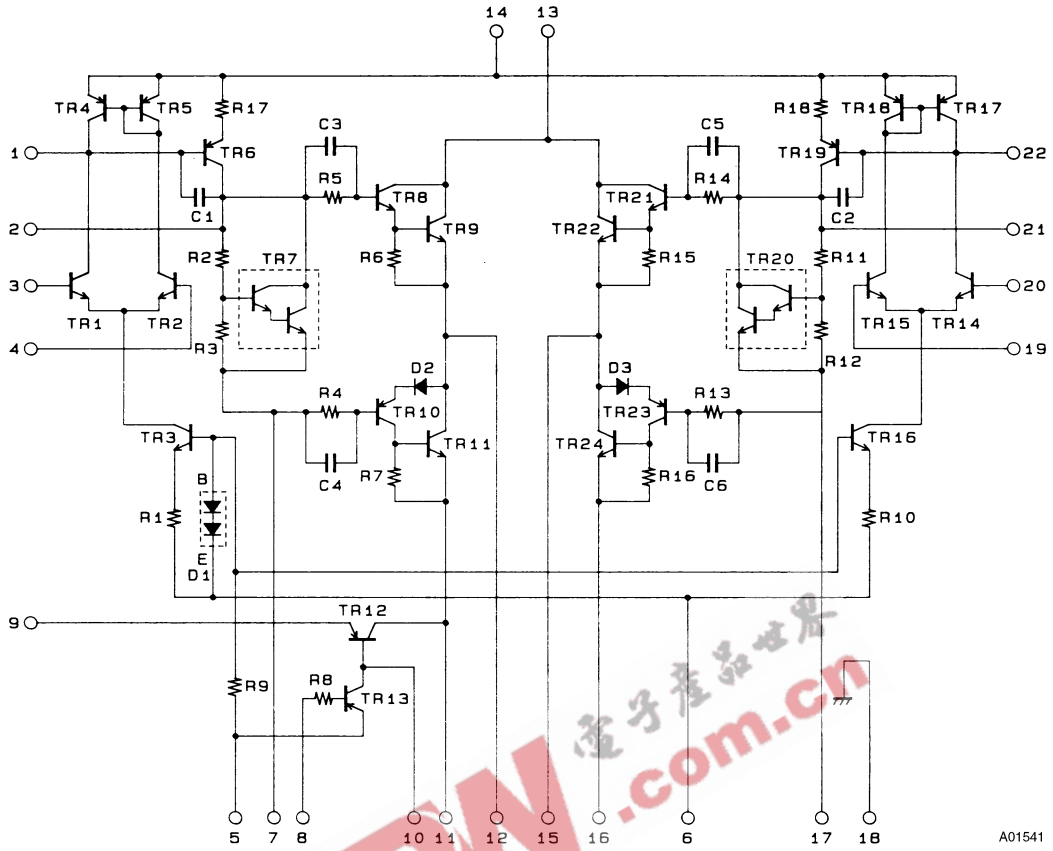
1. Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

2. The output noise voltage is the peak value of an average-reading meter with an rms value scale (VTVM). The noise voltage waveform includes no flicker noise.

**Specified Transformer Supply (MG-250 or Equivalent)**

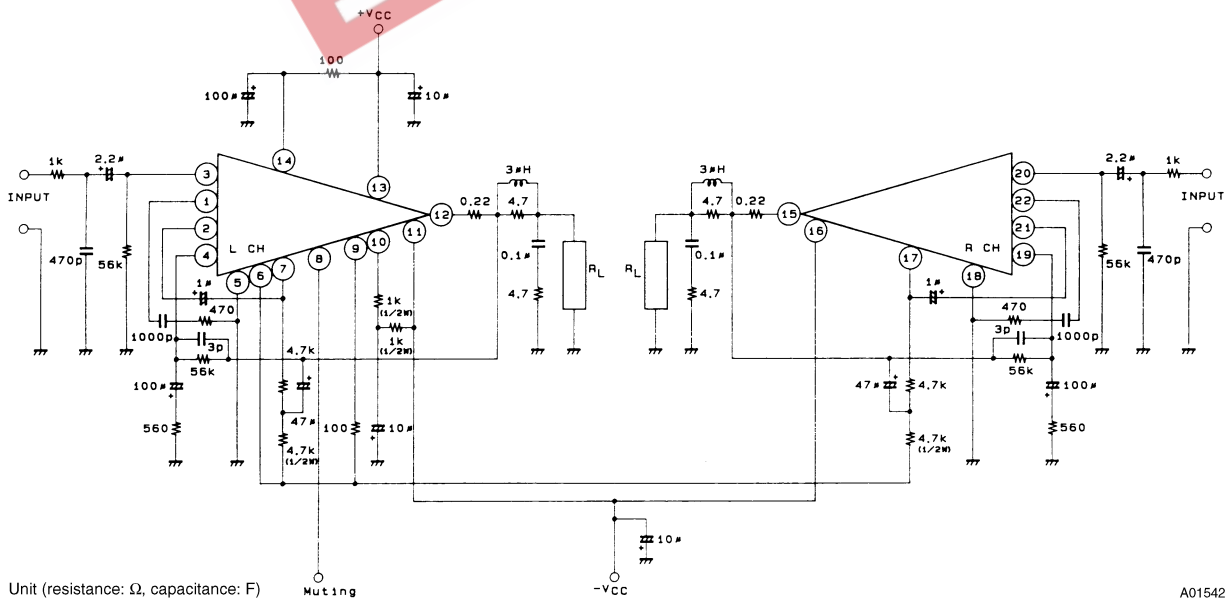


Equivalent Circuit



A01541

Sample Application Circuit (120W min 2-Channel AF Power Amplifier)



A01542



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