

**STK4036II**

## AF Power Amplifier (Split Power Supply) (50W min, THD = 0.4%)

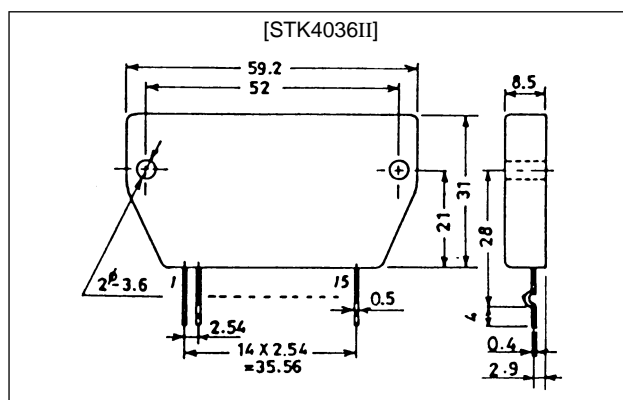
### Features

- 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 tailor-designed.

### Package Dimensions

unit: mm

4033



### Specifications

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

Parameter	Symbol	Conditions	Rated	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		$\pm 52$	V
Thermal resistance	$\theta_{j-c}$		1.8	$^\circ\text{C}/\text{W}$
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>	$t_s$	$V_{CC} = \pm 35\text{V}$ , $R_L = 8\Omega$ , $f = 50\text{Hz}$ , $P_O = 50\text{W}$	2	s

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

Parameter	Symbol	Conditions	Rated	Unit
Recommended supply voltage	$V_{CC}$		$\pm 35$	V
Load resistance	$R_L$		8	$\Omega$

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**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 35\text{V}$ ,  $R_L = 8\Omega$  (noninductive load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 42\text{V}$	10	20	50	mA
Output power	$P_{O(1)}$	THD = 0.4%, $f = 20\text{Hz}$ to $20\text{kHz}$	50	–	–	W
	$P_{O(2)}$	$V_{CC} = \pm 31\text{V}$ , THD = 1.0%, $R_L = 4\Omega$ , $f = 1\text{kHz}$	55	–	–	W
Total harmonic distortion	THD	$P_O = 1.0\text{W}$ , $f = 1\text{kHz}$	–	–	0.3	%
Frequency response	$f_L, f_H$	$P_O = 1.0\text{W}$ , $+0_{-3}\text{dB}$	–	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>	$V_{NO}$	$V_{CC} = \pm 42\text{V}$ , $R_g = 10k\Omega$	–	–	1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 42\text{V}$	-70	0	+70	mV

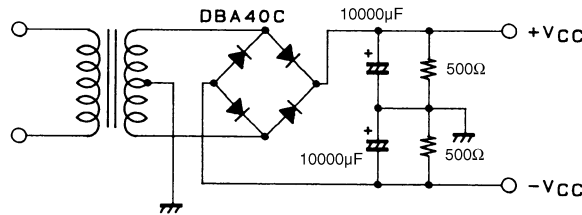
**Notes.**

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

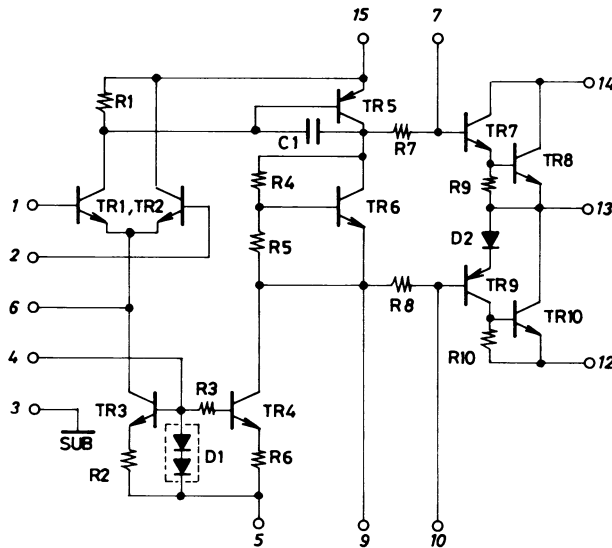
1. Output noise voltage is measured using the transformer supply specified below.

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.

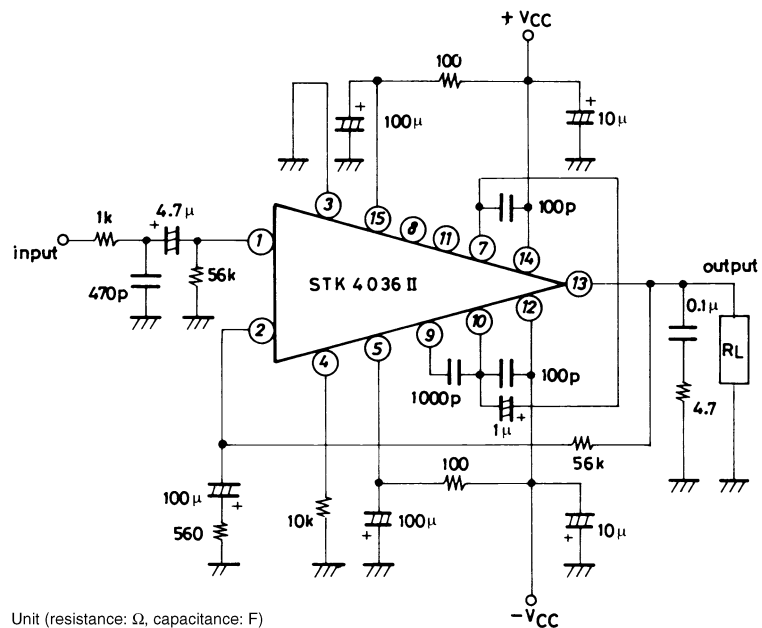
**Specified Transformer Supply (MG-200 or Equivalent)**



**Equivalent Circuit**



## Sample Application Circuit (50W min AF Power Amplifier)



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