



# AF Power Amplifier (Split Power Supply) (40W min, THD = 0.008%)

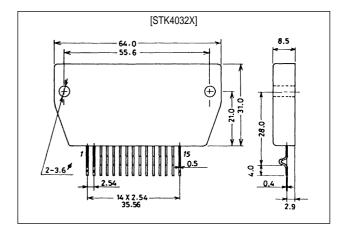
#### **Features**

- Compact package for thin-type audio sets
- Member of pin-compatible series with outputs of 30 to 100W
- Easy heatsink design to disperse heat generated in thintype stereo sets
- Current mirror circuit for low 0.008% total harmonic distortion
- 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

#### 4062



### **Specifications**

#### **Maximum Ratings** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±49	V
Thermal resistance	Өј-с		1.8	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Tc		125	°C
Storage temperature	Tstg		-30 to +125	°C
Available time for load short-circuit <sup>1</sup>	t <sub>s</sub>	$V_{CC} = \pm 33.5 \text{V}, R_L = 8\Omega, f = 50 \text{Hz}, P_O = 40 \text{W}$	2	S

#### **Recommended Operating Conditions** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		±33.5	V
Load resistance	R <sub>L</sub>		8	Ω

### **Operating Characteristics**

at Ta = 25°C,  $V_{CC}$  =  $\pm 33.5$ V,  $R_L$  =  $8\Omega$  (noninductive load), Rg =  $600\Omega$ , VG = 40dB, 100kHz LPF on

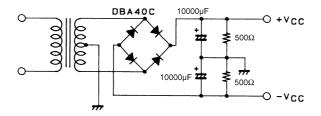
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I <sub>CCO</sub>	V <sub>CC</sub> = ±40V	15	-	120	mA
Output power	P <sub>O</sub> (1)	THD = 0.008%, f = 20Hz to 20kHz	40	-	1	W
	P <sub>O</sub> (2)	$\begin{aligned} &V_{CC}=\pm 30\text{V, THD}=0.04\%,\\ &R_{L}=4\Omega,\text{f}=1\text{kHz} \end{aligned}$	45	-	-	W
Total harmonic distortion	THD	P <sub>O</sub> = 1.0W, f = 1kHz	-	-	0.008	%
Frequency response	f <sub>L</sub> , f <sub>H</sub>	$P_0 = 1.0W$ , $^{+0}_{-3} dB$	-	20 to 50k	-	Hz
Input impedance	r <sub>i</sub>	P <sub>O</sub> = 1.0W, f = 1kHz	-	55	-	kΩ
Output noise voltage <sup>2</sup>	V <sub>NO</sub>	$V_{CC} = \pm 40V$ , $Rg = 10k\Omega$	-	-	1.2	mVrms
Neutral voltage	V <sub>N</sub>	V <sub>CC</sub> = ±40V	-70	0	+70	mV

#### Notes.

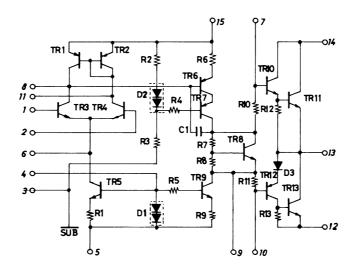
All tests are measured using a constant-voltage supply unless otherwise specified.

- 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. The noise voltage waveform does not inloude any pulse noise.

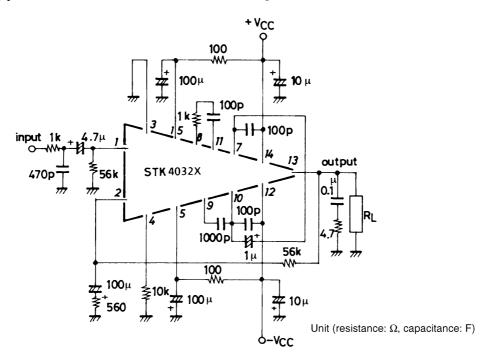
#### Specified Transformer Supply (MG-200 or Equivalent)



# **Equivalent Circuit**



#### Sample Application Circuit (40W min AF Power Amplifier)



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