

Ordering number: EN 1708B

Thick-film Hybrid IC

<b>SANYO</b>	No. 1708B	<b>STK4040II</b>
	<b>70W min AF Power Amplifier (Split Power Supply)</b>	

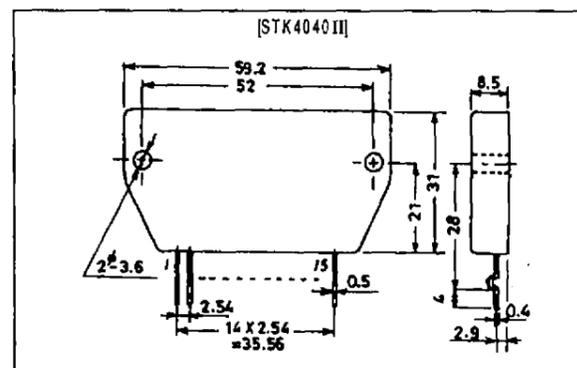
### Features

- Compact package for thin-type audio sets
- Member of pin-compatible series with outputs of 6 to 70W
- 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
- Supports external circuits such as supply switch-on and switch-off shock noise muting, load short-circuit protection, thermal shutdown and other circuits.

### Package Dimensions

unit: mm

4033



### Specifications

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

Parameter	Symbol	Conditions	Rating	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		$\pm 60$	V
Thermal resistance	$\theta_{j-c}$	Per power transistor	1.5	$^\circ\text{C}/\text{W}$
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>	$t_s$	$V_{CC} = \pm 42\text{V}$ , $R_L = 8\Omega$ , $f = 50\text{Hz}$ , $P_O = 70\text{W}$	1	s

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

Parameter	Symbol	Conditions	Rating	Unit
Supply voltage	$V_{CC}$		$\pm 42$	V
Load resistance	$R_L$		8	$\Omega$

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## STK4040II

**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 50\text{V}$ ,  $R_L = 8\Omega$  (non-inductive load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 50.5\text{V}$	10	20	50	mA
Output power	$P_O$	THD = 0.4%, $f = 20\text{Hz}$ to $20\text{kHz}$	70	-	-	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 resistance	$r_i$	$P_O = 1.0\text{W}$ , $f = 1\text{kHz}$	-	55	-	k $\Omega$
Output noise voltage <sup>2</sup>	$V_{NO}$	$V_{CC} = \pm 50.5\text{V}$ , $R_g = 10\text{k}\Omega$	-	-	1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 50.5\text{V}$	-70	0	+70	mV

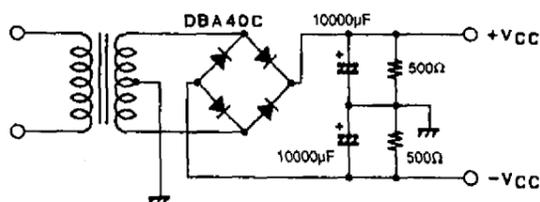
**Notes.**

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

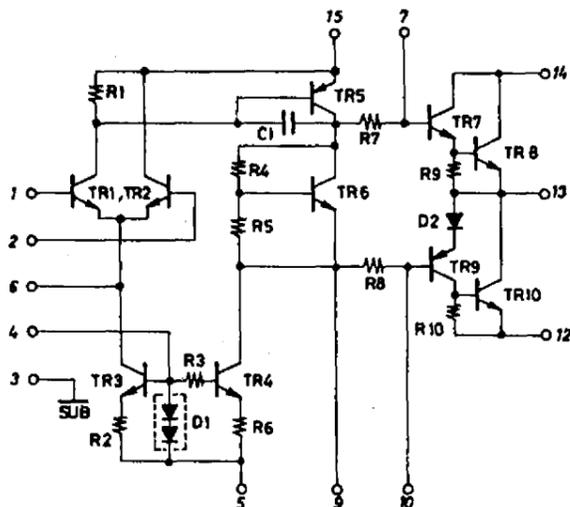
1. Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

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 include any pulse noise.

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

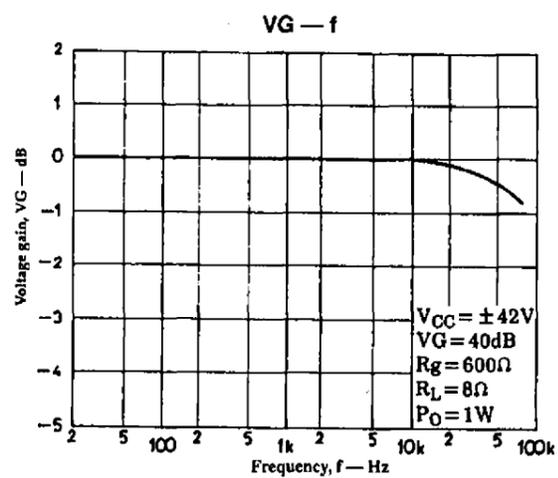
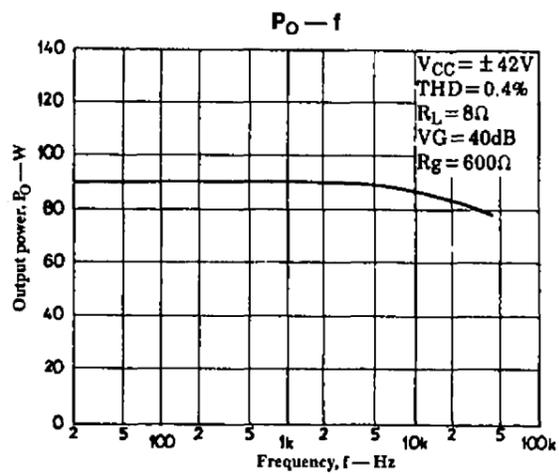
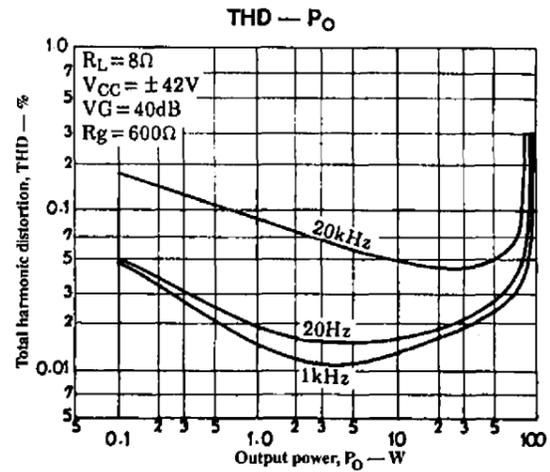
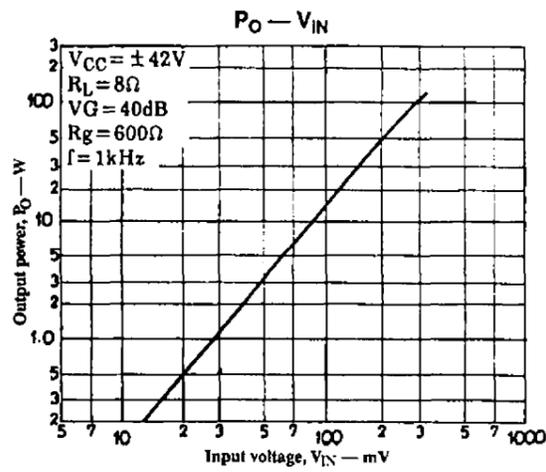
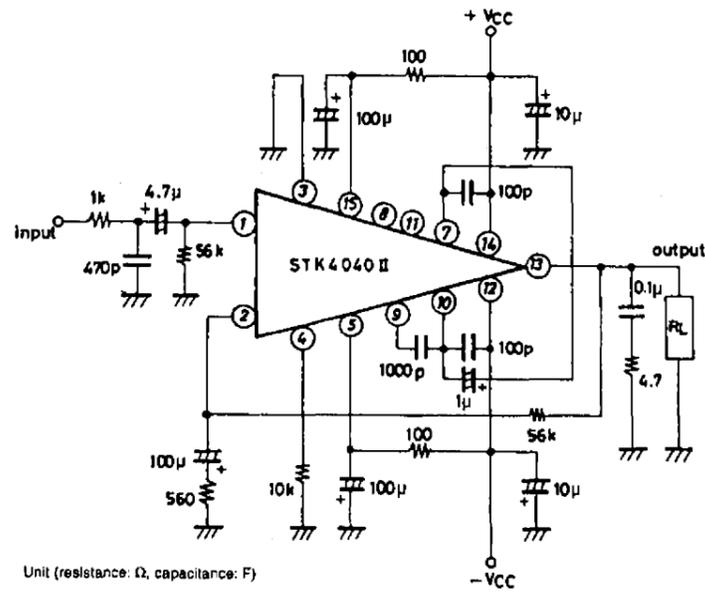


**Internal Equivalent Circuit**

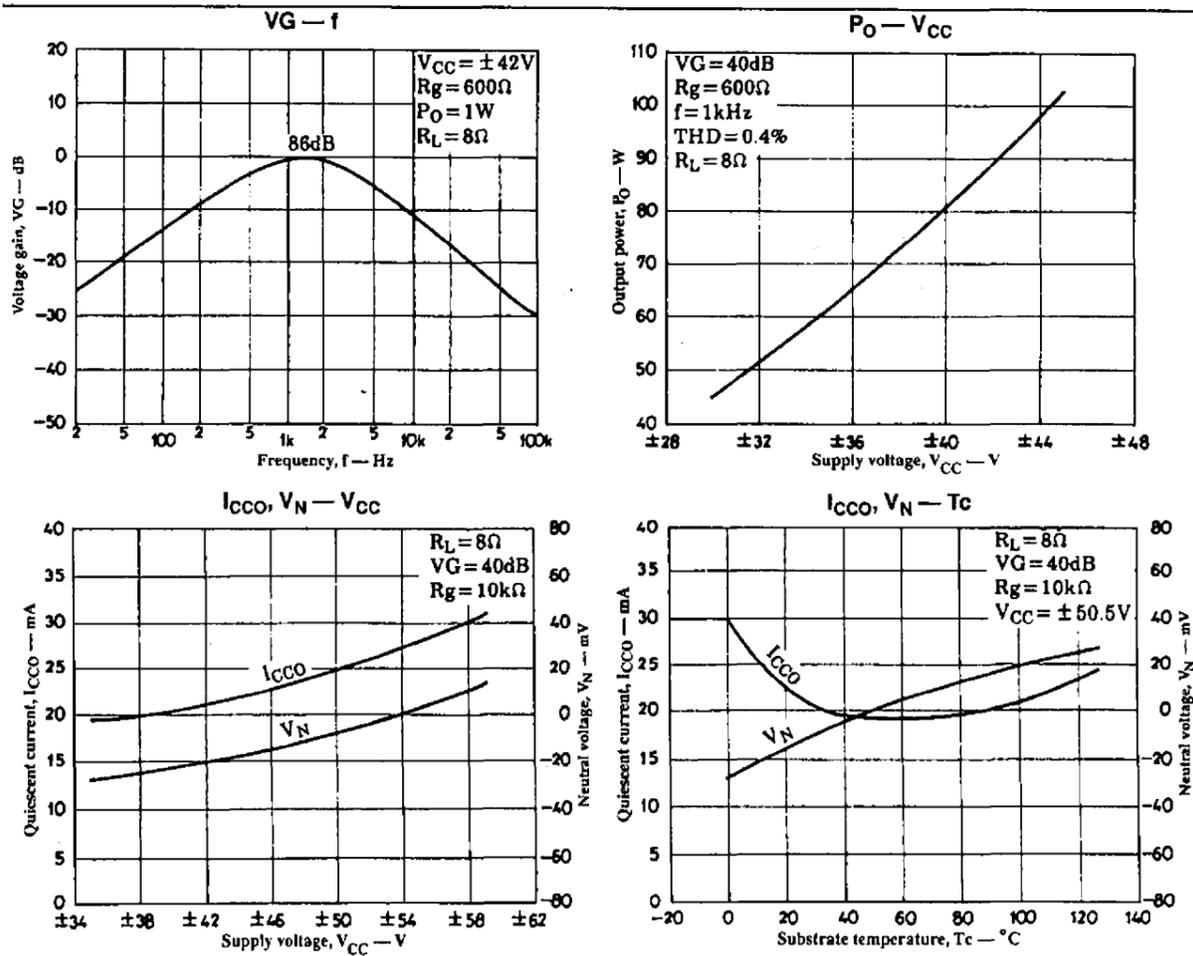


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Sample Application Circuit



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