



No.4479A

STK4042 II

AF Power Amplifier (Split Power Supply) (80 W min, THD = 0.4%)

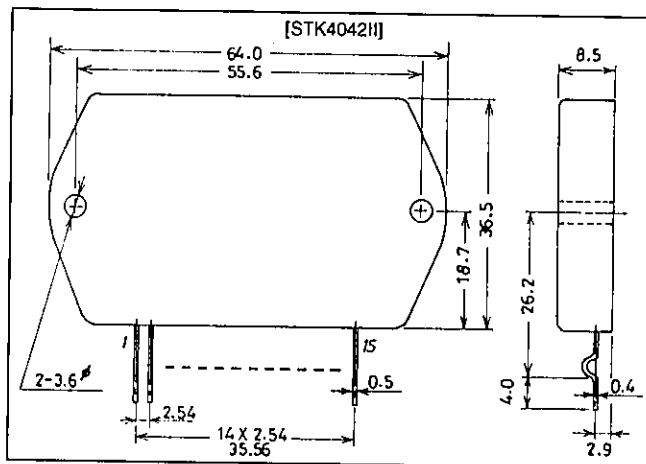
Features

- Miniature package allows audio sets to be made slimmer.
- Pin-compatible amplifiers with outputs of 20 to 200 W are available.
- Facilitates thermal design of slim stereo sets by distributing the heat dissipating ICs in the set.
- The adoption of constant current circuits reduces pop noise when the power supply is turned on or off.
- Supports the design of supplementary electronic circuits (thermal shutdown, load short protection, and pop noise muting at power on and off).

Package Dimensions

unit: mm

4075



Specifications

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

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		± 65	V
Thermal resistance	$\theta\text{-c}$		1.2	$^\circ\text{C}/\text{W}$
Junction temperature	T_j		150	$^\circ\text{C}$
Operating case temperature	T_c		125	$^\circ\text{C}$
Storage temperature	T_{stg}		-30 to +125	$^\circ\text{C}$
Available time for load shorted	t_S^*	$V_{CC} = \pm 45 \text{ V}, R_L = 8 \Omega, f = 50 \text{ Hz}, P_O = 80 \text{ W}$	2	s

Note: Use a constant voltage power supply as the test power supply unless otherwise specified.

* Use the transformer power supply shown on the next page when measuring the available time for load shorted and the output noise voltage.

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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	V_{CC}		± 45	V
Load resistance	R_L		8	Ω

Operating Characteristics at $T_a = 25^\circ\text{C}, V_{CC} = \pm 45 \text{ V}, R_L = 8 \Omega$ (noninductive load), $R_g = 600 \Omega, V_G = 40 \text{ dB}$

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$V_{CC} = \pm 54 \text{ V}$	15		120	mA
Output power	P_O	THD = 0.4%, $f = 20 \text{ Hz to } 20 \text{ kHz}$	80			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 50 k		Hz
Input resistance	r_i	$P_O = 1.0 \text{ W}, f = 1 \text{ kHz}$		55		k Ω
Output noise voltage	V_{NO}^{**}	$V_{CC} = \pm 54 \text{ V}, R_g = 10 \text{ k}\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 54 \text{ V}$	-70	0	+70	mV

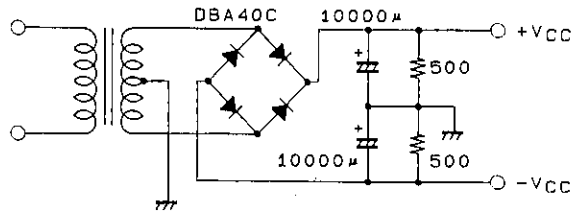
Note: Use a constant voltage power supply as the test power supply unless otherwise specified.

** The output noise voltage is the peak value measured with an averaging rms scale volt meter. The noise voltage waveform should not include pulse noise.

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

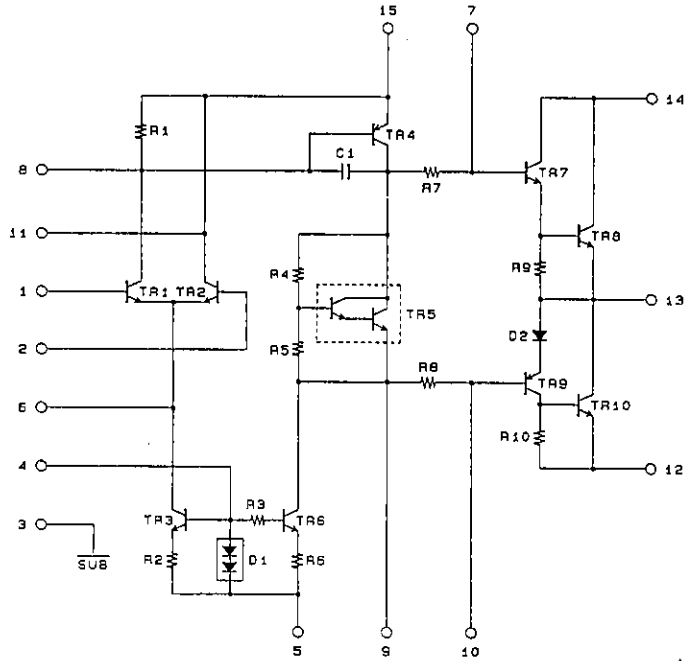
STK4042 II



Unit (resistance: Ω, capacitance: F)

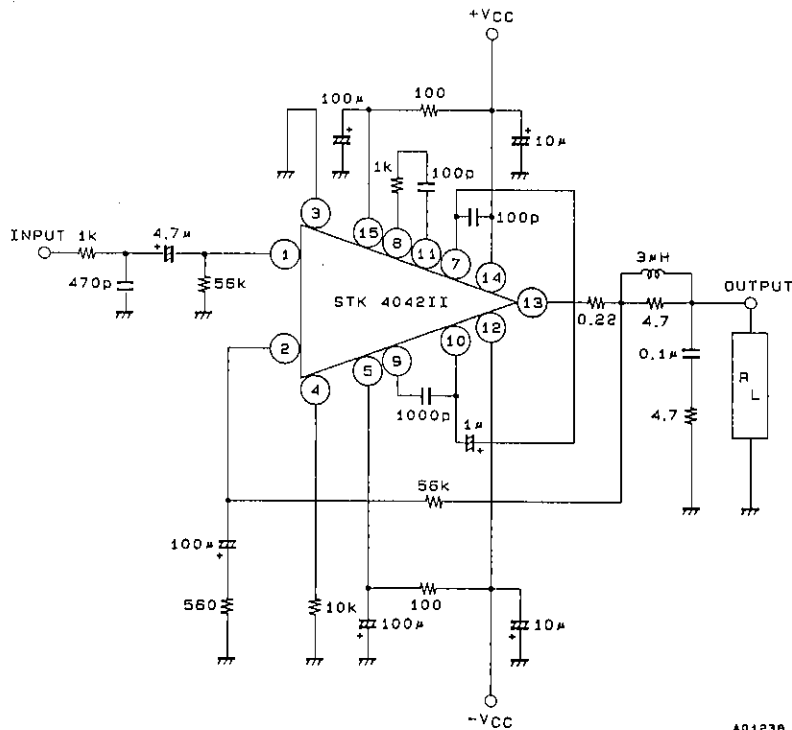
Specified Transformer Power Supply (MG-200 equivalent)

Equivalent Circuit



A01236

Sample Application Circuit: 80 W (minimum) AF Power Amplifier



A01236

Unit (resistance: Ω, capacitance: F)

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