

Ordering number : EN4547A

Thick Film Hybrid IC

**SANYO****STK4032 II****AF Power Amplifier (Split Power Supply)  
(40 W min, THD = 0.4%)**

## Features

- Compact packaging supports slimmer set designs
- Series designed for 20 up to 200 W and pin-compatibility
- Simpler heat sink design facilitates thermal design of slim stereo sets
- The pulse noises associated with turning the power on and off have been reduced by the adoption of fixed current circuits
- Supports addition of electronic circuits for thermal shutdown and load-short protection circuit as well as pop noise muting which occurs when the power supply switch is turned on and off

## Specifications

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

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	$V_{CC}$ max		$\pm 48$	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 shorted	$t_{S*1}$	$V_{CC} = \pm 32\text{ V}$ , $R_L = 8\ \Omega$ , $f = 50\text{ Hz}$ , $P_O = 40\text{ W}$	2	s

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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	$V_{CC}$		$\pm 32$	V
Load resistance	$R_L$		8	$\Omega$

### Operating Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = \pm 32\text{ V}$ , $R_L = 8\ \Omega$ , $V_G = 40\text{ dB}$ , $R_g = 600\ \Omega$ , $R_L$ (non-inductive)

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 38.5\text{ V}$	10	20	50	mA
Output power	$P_O(1)$	THD = 0.4%, $f = 20\text{ Hz}$ to $20\text{ kHz}$	40			W
	$P_O(2)$	$V_{CC} = \pm 29\text{ V}$ , THD = 1.0%, $R_L = 4\ \Omega$ , $f = 1\text{ kHz}$	45			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 resistance	$r_i$	$P_O = 1.0\text{ W}$ , $f = 1\text{ kHz}$		55		k $\Omega$
Output noise voltage	$V_{NO*2}$	$V_{CC} = \pm 38.5\text{ V}$ , $R_g = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 38.5\text{ V}$	-70	0	+70	mV

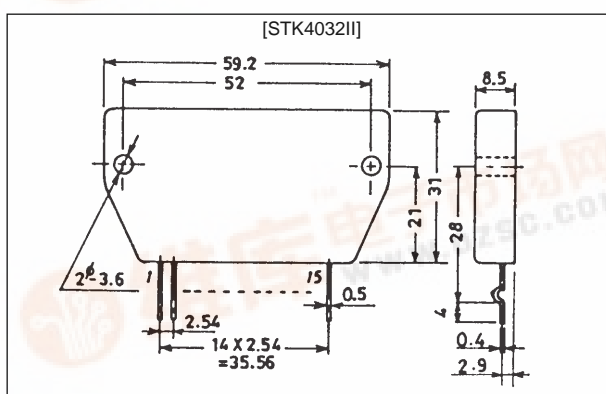
Note: Use rated power supply for test unless otherwise specified.

\*1. Use the transformer power supply shown on the next page when measuring the available time for load shorted and the output noise voltage.

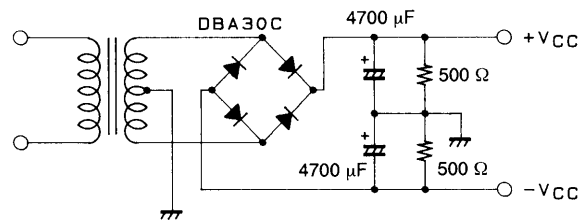
\*2. Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.

## Package Dimensions

unit: mm

**4033**

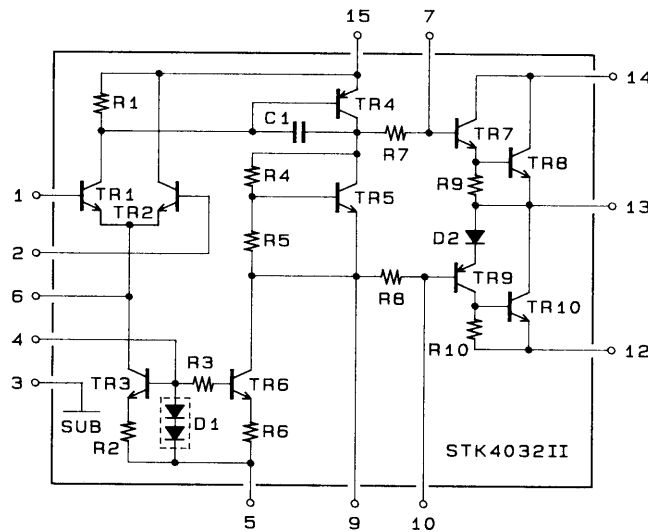
## STK4032II



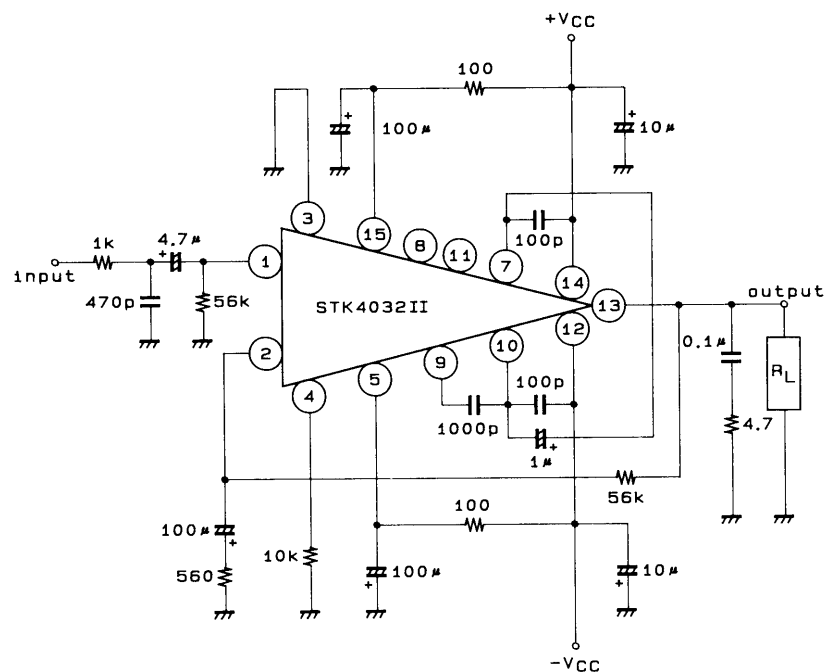
Unit (resistance:  $\Omega$ , capacitance: F)

**Specified Transformer Power Supply**  
(RP-25 equivalent)

## Equivalent Circuit



## Application Circuit: 40 W min AF Power Amplifier



Unit (resistance:  $\Omega$ , capacitance: F)

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