

**SANYO**

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**STK4034X****AF Power Amplifier (Split Power Supply)  
(45 W min, THD = 0.008%)****Features**

- Miniature package allows audio sets to be made slimmer.
- Pin-compatible amplifiers with outputs of 30 to 100 W are available.
- Facilitates thermal design of slim stereo sets by distributing the heat dissipating ICs in the set.
- Current mirror circuit application reduces distortion to 0.008%.
- Supports the design of supplementary electronic circuits (thermal shutdown, load short protection, and pop noise muting at power on and off).

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$		$\pm 50$	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	$t_S^*$	$V_{CC} = \pm 35\text{ V}$ , $R_L = 8\ \Omega$ , $f = 50\text{ Hz}$ , $P_O = 45\text{ W}$	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	Conditions	Ratings	Unit
Recommended supply voltage	$V_{CC}$		$\pm 35$	V
Load resistance	$R_L$		8	$\Omega$

**Operating Characteristics****at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 35\text{ V}$ ,  $R_L = 8\ \Omega$ ,  $V_G = 40\text{ dB}$ ,  $R_g = 600\ \Omega$ , 100 k LPF ON,  $R_L$  (noninductive load)**

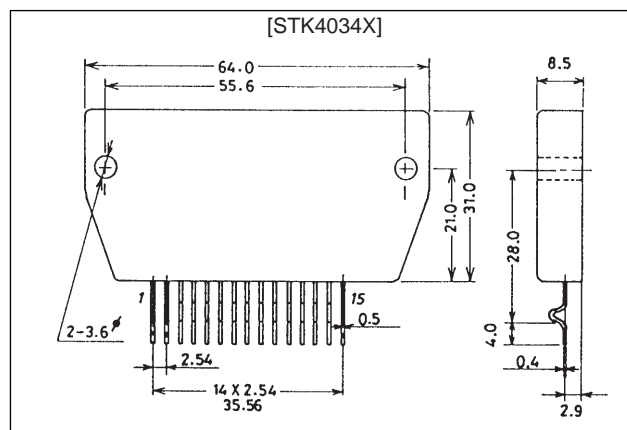
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 41\text{ V}$	15		120	mA
Output power	$P_O(1)$	THD = 0.008%, $f = 20\text{ Hz}$ to $20\text{ kHz}$	45			W
	$P_O(2)$	$V_{CC} = \pm 31\text{ V}$ , THD = 0.04%, $R_L = 4\ \Omega$ , $f = 1\text{ kHz}$	50			
Total harmonic distortion	THD	$P_O = 1.0\text{ W}$ , $f = 1\text{ kHz}$			0.008	%
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 $\Omega$
Output noise voltage	$V_{NO}^*$	$V_{CC} = \pm 41\text{ V}$ , $R_g = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 41\text{ V}$	-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.

**Package Dimensions**

unit: mm

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