



STK4036X

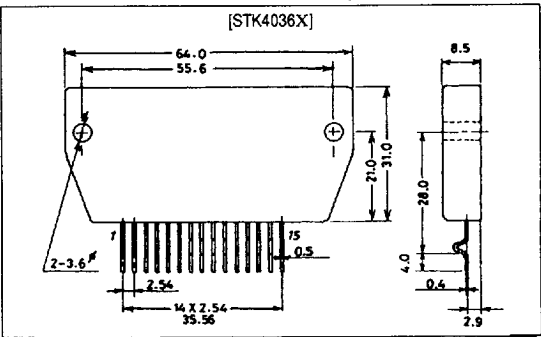
AF Power Amplifier (Split Power Supply)
(50W min, THD = 0.008%)

Features

- Small-sized package permitting audio sets to be made slimmer
- The STK4028X series are available for output 30W to 100W and are pin-compatible.
- Facilitates thermal design of slim stereo sets.
- The use of a current mirror circuit, cascode circuit provides low distortion (0.008%/100kHz-LPF ON).
- Possible to design electronic supplementary circuits (pop noise muting at the time of power ON/OFF, load short protector, thermal shutdown)

Package Dimensions

unit: mm
4062



Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		± 52.0	V
Thermal resistance	θ_{j-c}		1.8	°C/W
Junction temperature	T_j		150	°C
Operating substrate temperature	T_c		125	°C
Storage temperature	T_{stg}		-30 to +125	°C
Available time for load short-circuit	t_s^*	$V_{CC} = \pm 36.5V, R_L = 8\Omega, f = 50Hz, P_O = 50W$	2.0	s

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		± 36.5	V
Load resistance	R_L		8	Ω

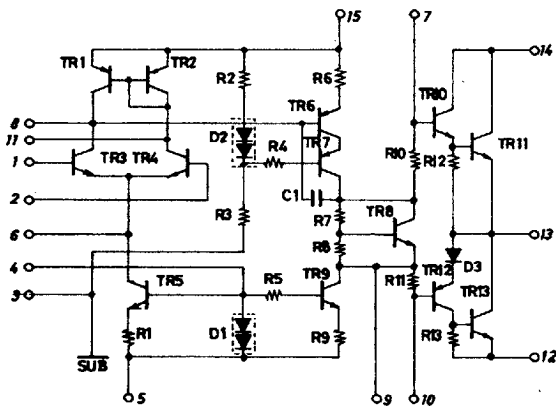
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Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 36.5\text{V}$, $R_L = 8\Omega$ (noninductive load), $f = 1\text{kHz}$, $R_g = 600\Omega$, 100kHz-LPF on

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO}	$V_{CC} = \pm 42V$	15	—	120	mA
Output power	$P_{O(1)}$	$f = 20Hz$ to $20kHz$, THD = 0.008%	50	—	—	W
	$P_{O(2)}$	$V_{CC} = \pm 31.5V$, THD = 0.04%, $R_L = 4\Omega$	55	—	—	W
Total harmonic distortion	THD	$P_O = 1.0W$	—	—	0.008	%
Frequency response	f_L, f_H	$P_O = 1.0W, \pm 0.5dB$	—	20 to 50k	—	Hz
Input impedance	r_i	$P_O = 1.0W$	—	55	—	$k\Omega$
Output noise voltage	V_{NO}^{**}	$V_{CC} = \pm 42V, R_g = 10k\Omega$	—	—	1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 42V$	−70	0	+70	mV

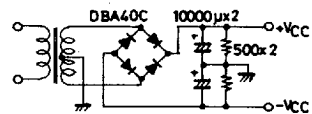
Equivalent Circuit



Note: For Power supply at the time of test, use a constant-voltage power supply unless otherwise specified.

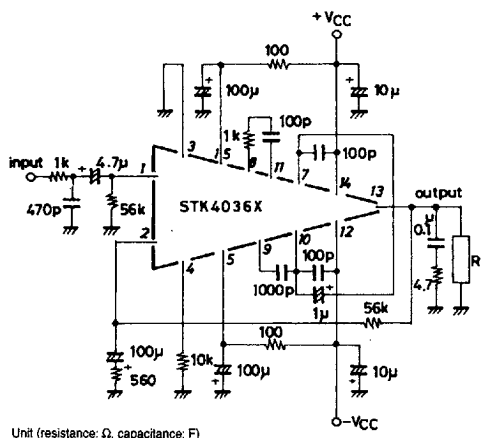
- * For measurement of the available time for load short-circuit and output noise voltage, use the specified transformer power supply shown below.

** The output noise voltage is represented by the peak value on rms scale (VTVM) of average value indicating type. The noise voltage waveform includes no flicker noise.



**Specified Transformer Power Supply
(Equivalent to MG-200)**

Sample Application Circuit: 50W min AF Power Amplifier

Unit (resistance: Ω , capacitance: F)

