

**STK4038X**

AF Power Amplifier (Split Power Supply) (60W min, THD = 0.008%)

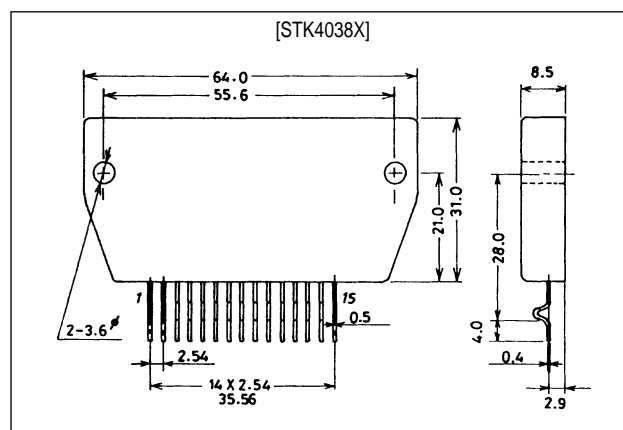
Features

- Compact package for thin-type audio sets
- Member of pin-compatible series with outputs of 30 to 100W
- Easy heatsink design to disperse heat generated in thin-type stereo sets
- Current mirror circuit for low 0.008% total harmonic distortion
- External supply switch-on and switch-off shock noise muting, load short-circuit protection, thermal shutdown and other circuits can be tailored-designed.

Package Dimensions

unit: mm

4062



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		± 57	V
Thermal resistance	θ_{j-c}		1.4	$^\circ\text{C/W}$
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 ¹	t_s	$V_{CC} = \pm 39.5\text{V}, R_L = 8\Omega, f = 50\text{Hz}, P_O = 60\text{W}$	1	s

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		± 39.5	V
Load resistance	R_L		8	Ω

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Operating Characteristics

at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 39.5\text{V}$, $R_L = 8\Omega$ (noninductive load), $R_g = 600\Omega$, $V_G = 40\text{dB}$, 100kHz LPF on

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO}	$V_{CC} = \pm 47\text{V}$	15	–	120	mA
Output power	$P_{O(1)}$	THD = 0.008%, $f = 20\text{Hz}$ to 20kHz	60	–	–	W
	$P_{O(2)}$	$V_{CC} = \pm 33.5\text{V}$, THD = 0.04%, $R_L = 4\Omega$, $f = 1\text{kHz}$	60	–	–	W
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 50k	–	Hz
Input impedance	r_i	$P_O = 1.0\text{W}$, $f = 1\text{kHz}$	–	55	–	$k\Omega$
Output noise voltage ²	V_{NO}	$V_{CC} = \pm 47\text{V}$, $R_g = 10k\Omega$	–	–	1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 47\text{V}$	–70	0	+70	mV

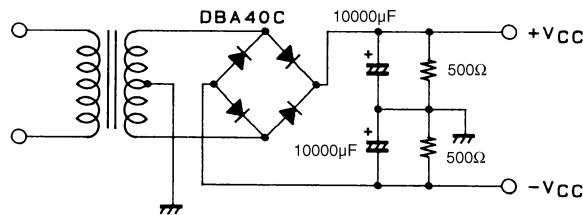
Notes.

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

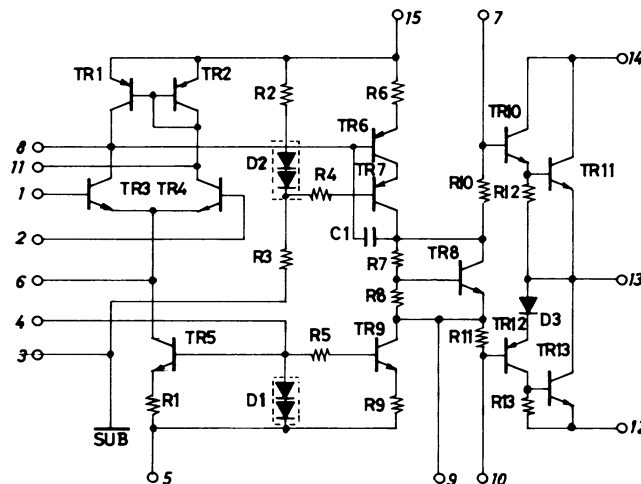
1. Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

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.

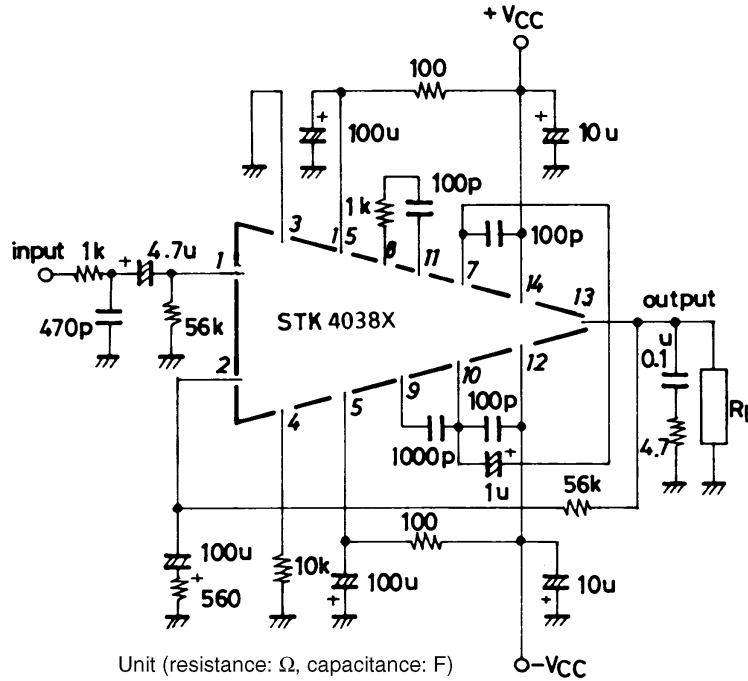
Specified Transformer Supply (MG-200 or Equivalent)



Equivalent Circuit



Sample Application Circuit (60W min AF Power Amplifier)



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