



STK4038X

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

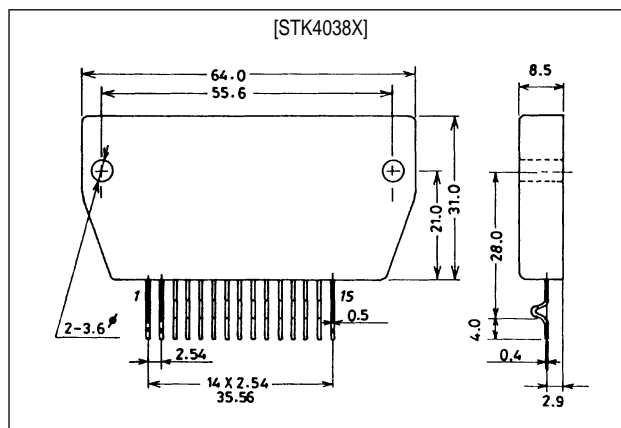
Features

- 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

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Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		±57	V
Thermal resistance	θ _{j-c}		1.4	°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 ¹	t _s	V _{CC} = ±39.5V, R _L = 8Ω, f = 50Hz, P _O = 60W	1	s

Recommended Operating Conditions at Ta = 25°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 Ω
Output noise voltage ²	V_{NO}	$V_{CC} = \pm 47\text{V}$, $R_g = 10\text{k}\Omega$	–	–	1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 47\text{V}$	–70	0	+70	mV

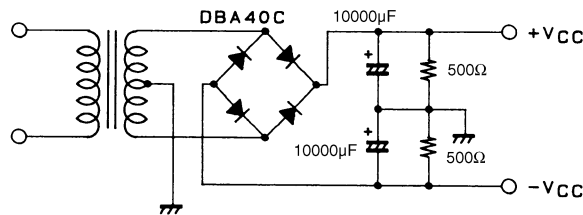
Notes.

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

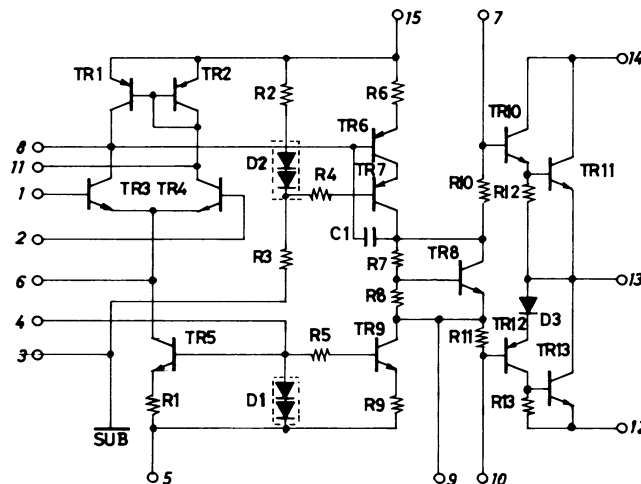
1. Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

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.

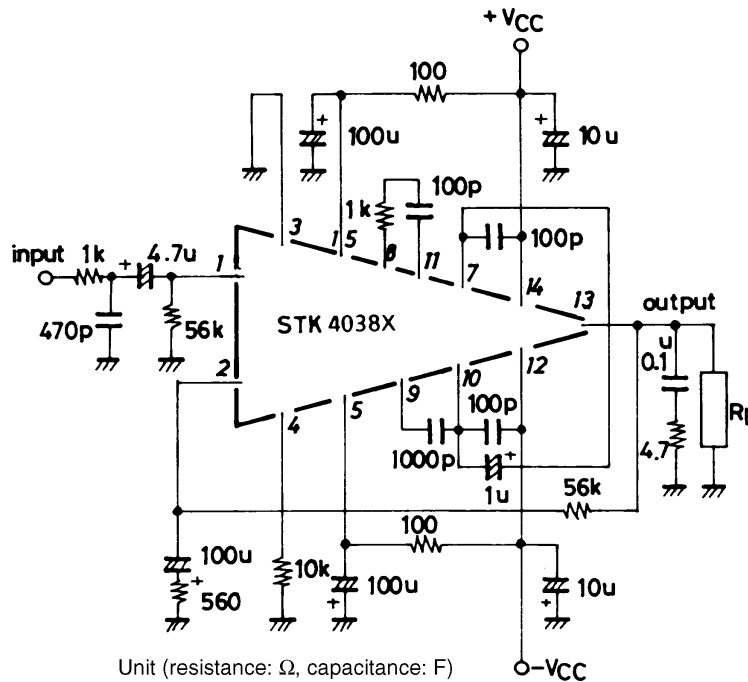
Specified Transformer Supply (MG-200 or Equivalent)



Equivalent Circuit



Sample Application Circuit (60W min AF Power Amplifier)



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