Thick Film Hybrid IC

STK4038X



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

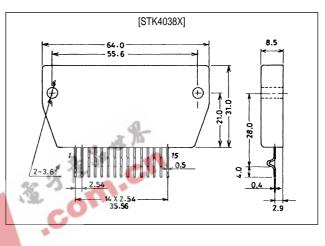
Features

- 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 thintype 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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		±57	V
Thermal resistance	Өј-с		1.4	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Тс		125	°C
Storage temperature	Tstg		-30 to +125	°C
Available time for load short-circuit ¹	t _s	$V_{CC} = \pm 39.5$ V, $R_L = 8\Omega$, $f = 50$ Hz, $P_O = 60$ W	1	s

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

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

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Operating Characteristics

at Ta = 25°C, V_{CC} = ±39.5V, R_L = 8 Ω (noninductive load), Rg = 600 Ω , VG = 40dB, 100kHz LPF on

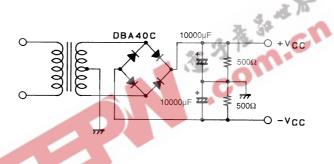
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	Icco	$V_{CC} = \pm 47V$	15	-	120	mA
Output power	P _O (1)	THD = 0.008%, f = 20Hz to 20kHz	60	_	_	W
	P _O (2)	$V_{CC} = \pm 33.5 \text{V}, \text{THD} = 0.04\%,$ $R_{L} = 4\Omega, \text{ f} = 1 \text{kHz}$	60	_	_	W
Total harmonic distortion	THD	P _O = 1.0W, f = 1kHz	-	-	0.008	%
Frequency response	f _L , f _H	$P_0 = 1.0W, {}^{+0}_{-3} dB$	-	20 to 50k	-	Hz
Input impedance	r _i	P _O = 1.0W, f = 1kHz	-	55	-	kΩ
Output noise voltage ²	V _{NO}	$V_{CC} = \pm 47$ V, Rg = 10k Ω	-	_	1.2	mVrms
Neutral voltage	V _N	$V_{CC} = \pm 47V$	-70	0	+70	mV

Notes.

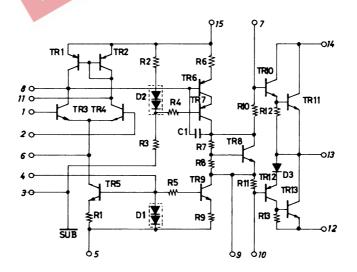
All tests are measured using a constant-voltage supply unless otherwise specified.

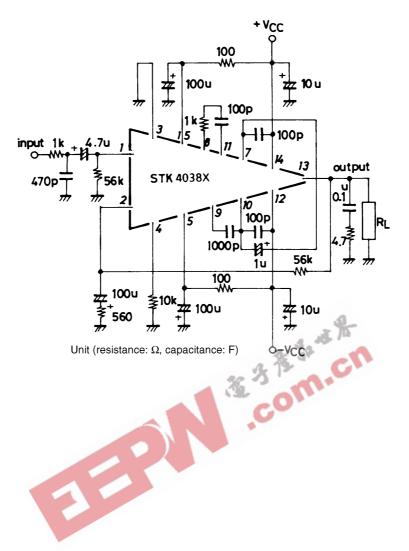
Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.
The output noise voltage is the peak value of an average-reading meter with an rms value scale. The noise voltage waveform does not inlcude any pulse noise.

Specified Transformer Supply (MG-200 or Equivalent)



Equivalent Circuit





Sample Application Circuit (60W min AF Power Amplifier)

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