



# STK4038XI

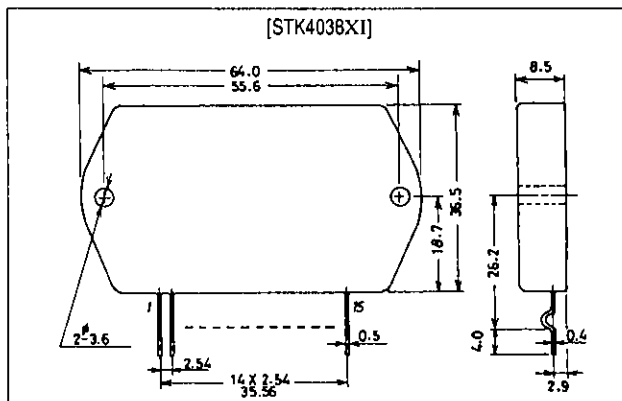
## AF Power Amplifier (Split Power Supply) (60W min, THD = 0.008%)

### Features

- Small-sized package permitting audio sets to be made slimmer
- The STK4036XI series are available for output 50W to 150W and are pin-compatible.
- Facilitates thermal design of slim stereo sets.
- The use of a current mirror circuit, cascode circuit, pure complementary 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  
4075



### Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±58	V
Thermal resistance	θ <sub>j-c</sub>		1.4	°C/W
Junction temperature	T <sub>j</sub>		150	°C
Operating substrate temperature	T <sub>c</sub>		125	°C
Storage temperature	T <sub>stg</sub>		-30 to +125	°C
Available time for load short-circuit	t <sub>s</sub> *	V <sub>CC</sub> = ±40V, R <sub>L</sub> = 8Ω, f = 50Hz, P <sub>O</sub> = 60W	1	s

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		±40	V
Load resistance	R <sub>L</sub>		8	Ω

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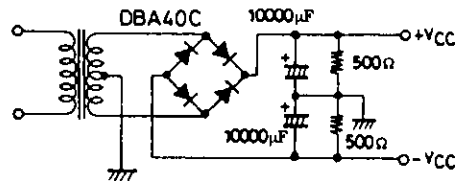
**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 40\text{V}$ ,  $R_L = 8\Omega$ ,  $V_G = 40\text{dB}$ ,  $R_g = 600\Omega$ ,  
 100kHz-LPF on,  $R_L$ : noninductive load

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 48\text{V}$	15	-	120	mA
Output power	$P_O$	$f = 20\text{Hz to } 20\text{kHz}$ , THD = 0.008%	60	-	-	W
Total harmonic distortion	THD	$P_O = 1\text{W}$ , $f = 1\text{kHz}$	-	-	0.008	%
Frequency response	$f_L, f_H$	$P_O = 1\text{W}$ , $+0_{-3}\text{dB}$	-	20 to 50k	-	Hz
Input impedance	$r_i$	$P_O = 1\text{W}$ , $f = 1\text{kHz}$	-	55	-	k $\Omega$
Output noise voltage	$V_{NO}^{**}$	$V_{CC} = \pm 48\text{V}$ , $R_g = 10\text{k}\Omega$	-	-	1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 48\text{V}$	-70	0	+70	mV

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

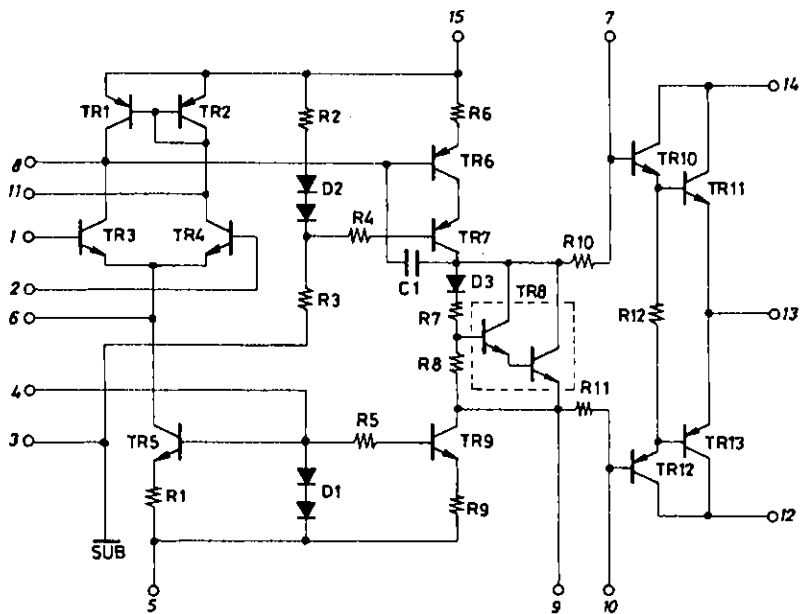
\* For measurement of the available time for load short-circuit and output noise voltage, use the specified transformer power supply shown right.

\*\* 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.

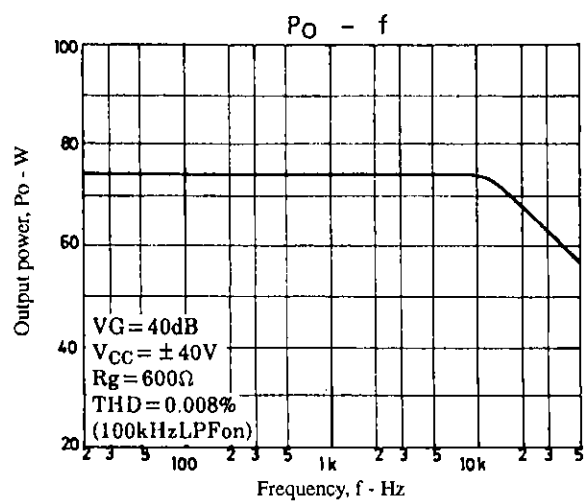
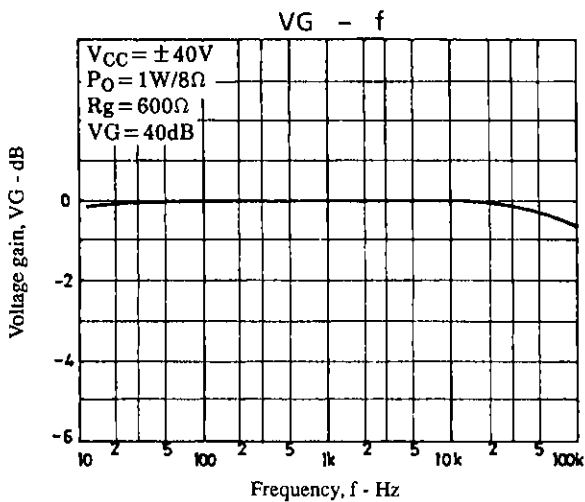
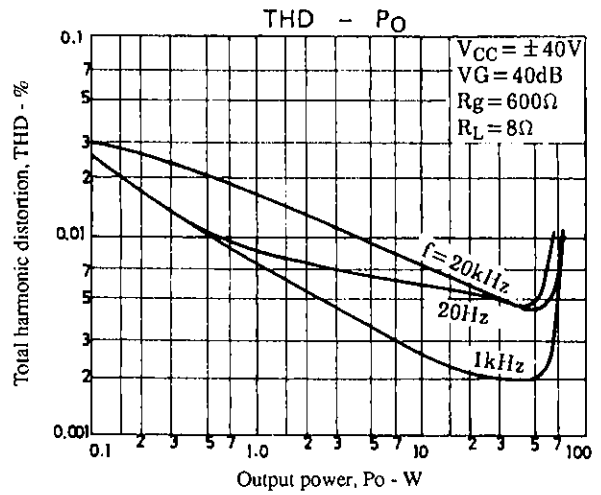
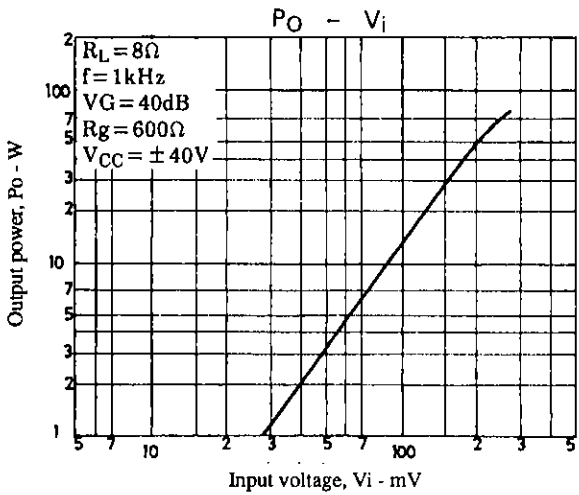
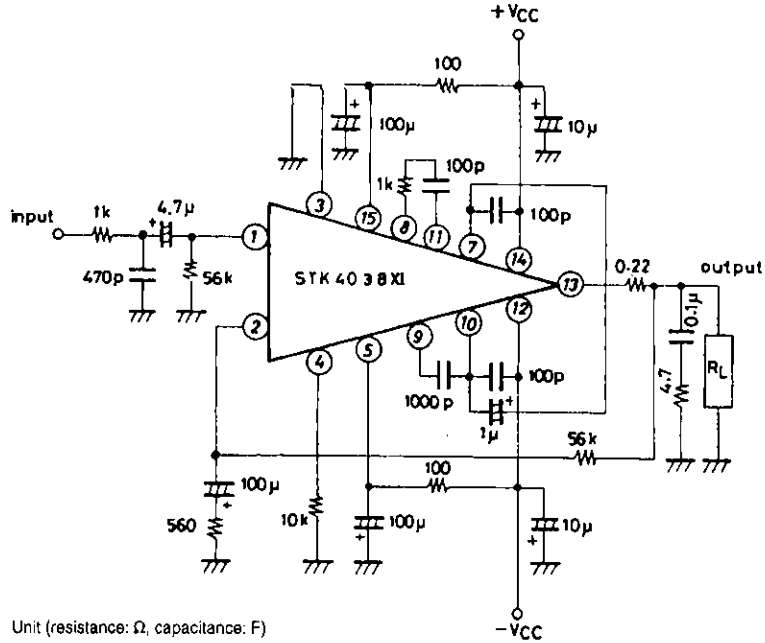


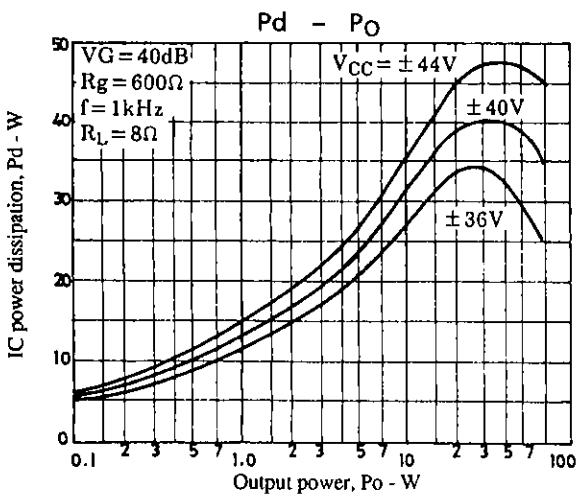
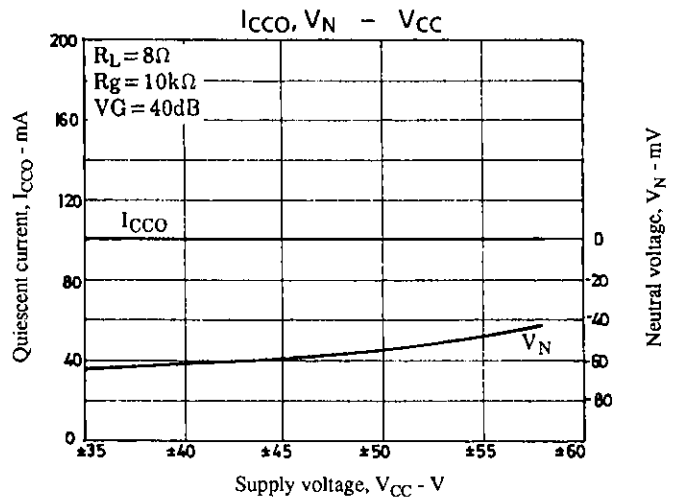
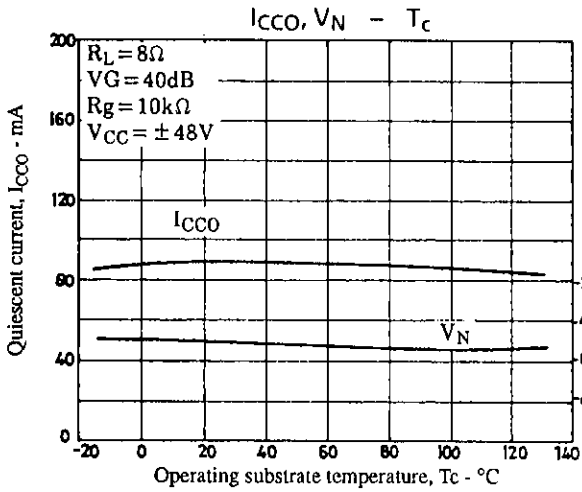
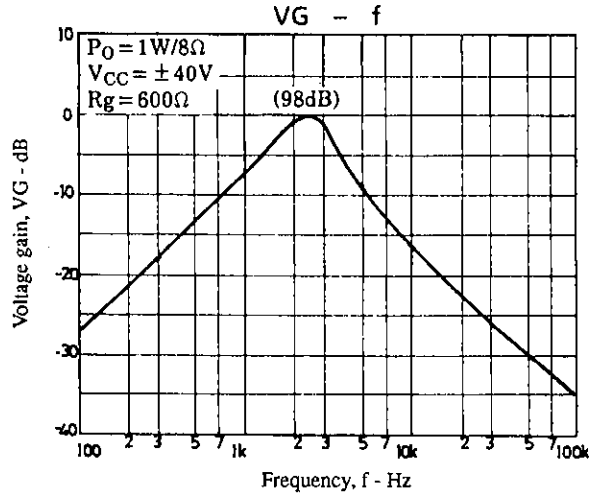
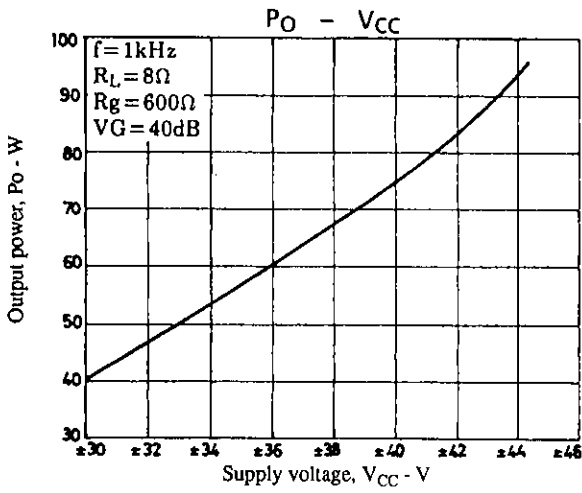
Specified Transformer Power Supply  
 (Equivalent to MG-200)

## Equivalent Circuit



Sample Application Circuit: 60W min AF Power Amplifier





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