



STK4046XI

AF Power Amplifier (Split Power Supply) (120 W min, THD = 0.008%)

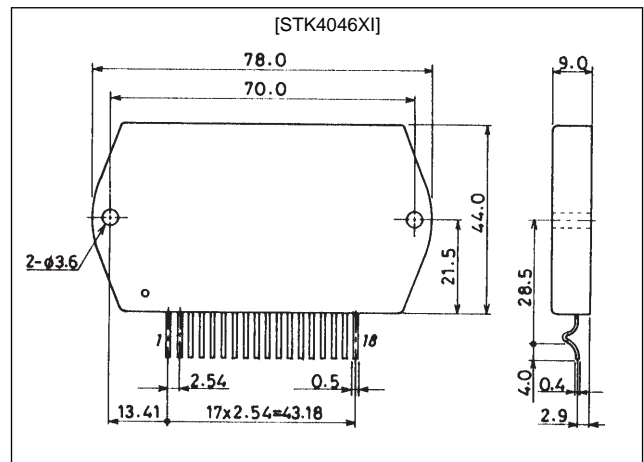
Features

- Compact packaging supports slimmer set designs
- Series designed from 50 up to 150 W and pin-compatibility
- Simpler heat sink design facilitates thermal design of slim stereo sets
- Current mirror circuit, cascade circuit and pure-complimentary circuit application reduce distortion to 0.008 %
- Supports addition of electronic circuits for thermal shutdown and load-short protection circuit as well as pop noise muting which occurs when the power supply switch is turned on and off.

Package Dimensions

unit: mm

4051A



Specifications

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

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		± 80	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	$^\circ\text{C}$

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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	V_{CC}		± 55	V
Load resistance	R_L		8	Ω

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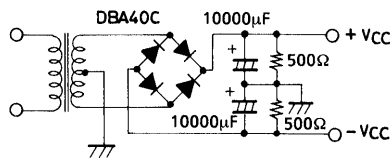
Operating Characteristics

at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 55\text{ V}$, $R_L = 8\ \Omega$, $V_G = 40\text{ dB}$, $R_g = 600\ \Omega$, 100 k LPF ON , R_L (non-inductive)

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$V_{CC} = \pm 66\text{ V}$	15		120	mA
Output power	P_O	THD = 0.008 %, $f = 20\text{ Hz to } 20\text{ kHz}$	120			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 dB		20 to 50k		Hz
Input resistance	r_i	$P_O = 1.0\text{ W}$, $f = 1\text{ kHz}$		55		$k\Omega$
Output noise voltage	V_{NO}^*	$V_{CC} = \pm 66\text{ V}$, $R_g = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 66\text{ V}$	-70	0	+70	mV

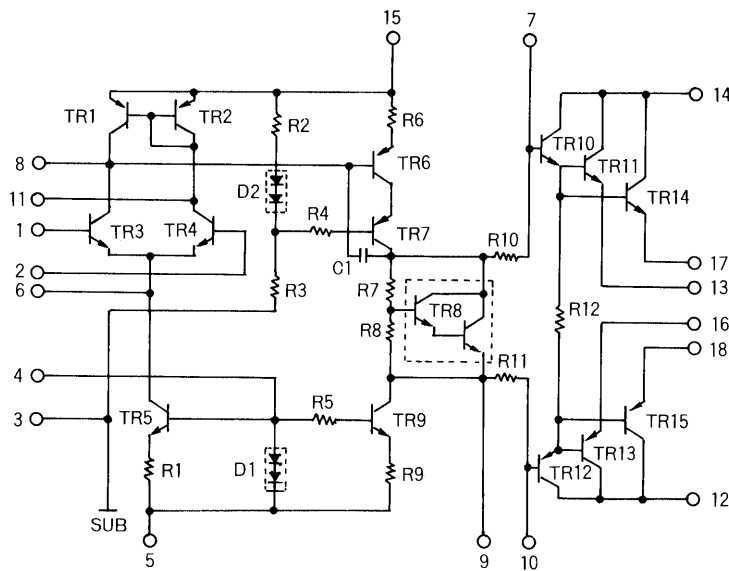
Note: Use rated power supply for test unless otherwise specified.

* Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.



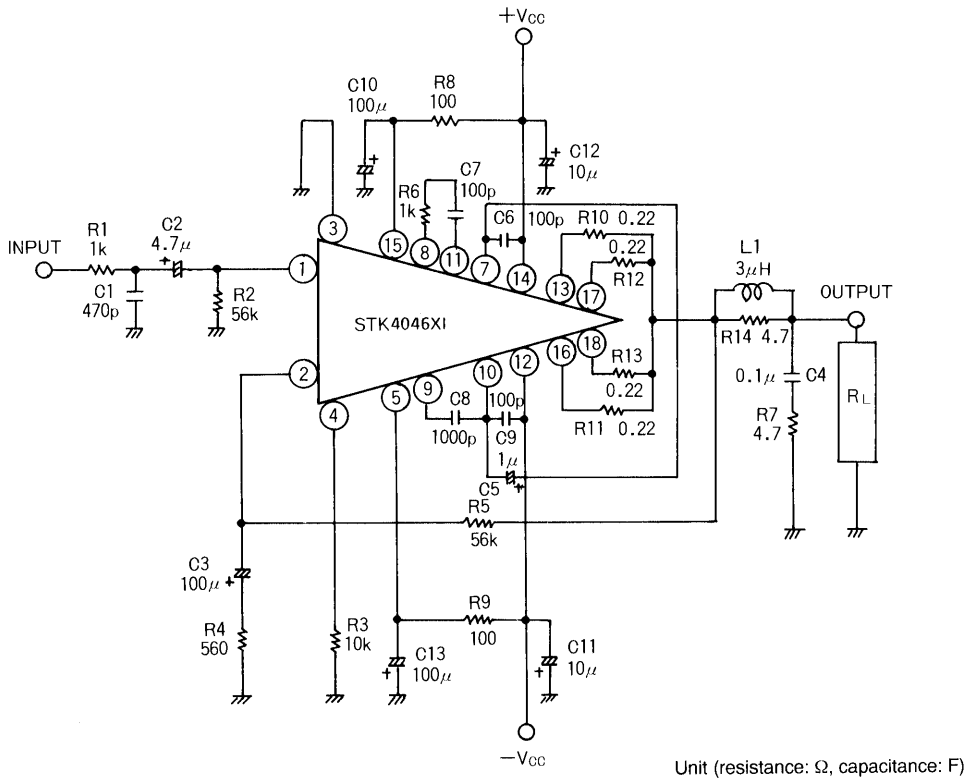
**Specified Transformer Power Supply
(MG-250 Equivalent)**

Equivalent Circuit

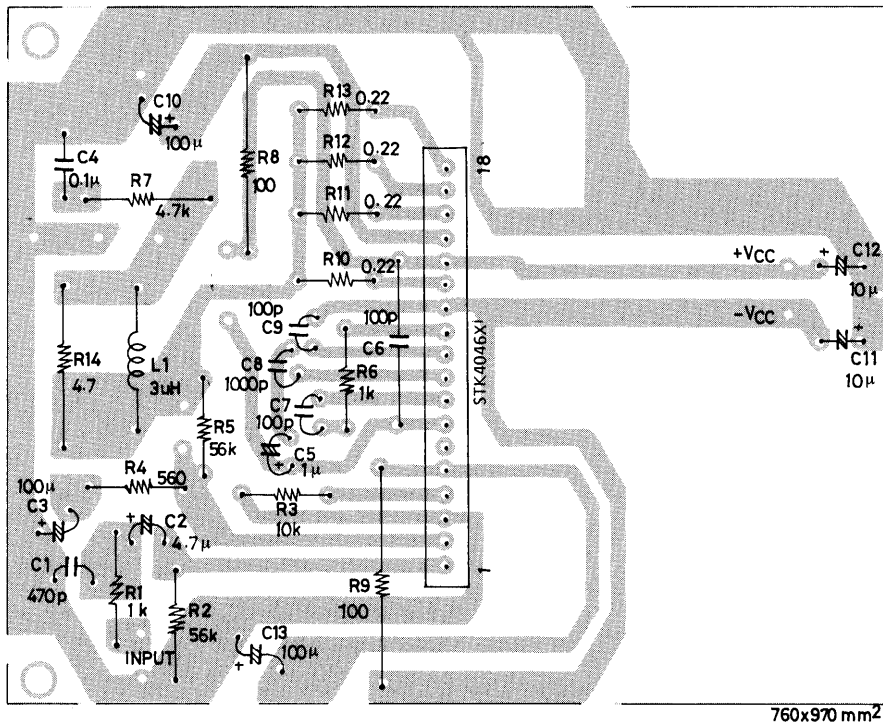


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Application Circuit: 120W min Single Channel AF Power Amplifier



Sample Printed Circuit Pattern for Application Circuit (Copper-foiled side)



Unit (resistance: Ω, capacitance: F)

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