Ordering number : EN4678A

Thick Film Hybrid IC

STK4046XI

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

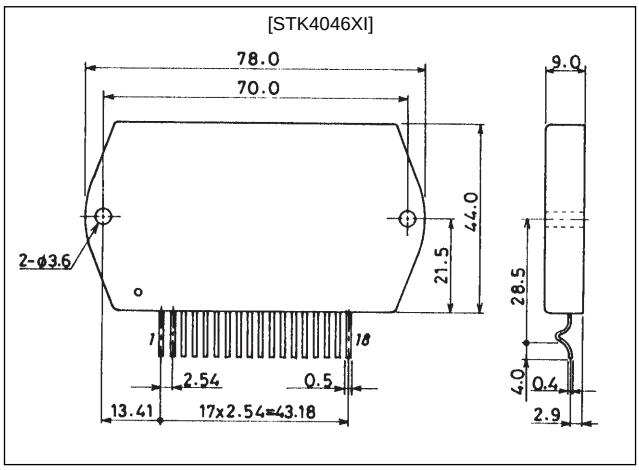
Features

- 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 Ta = 25°C

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	V_{CC} max		± 80	V
Thermal resistance	θj-c		1.4	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Tc		125	°C
Storage temperature	Tstg		–30 to +125	°C

Recommended Operational Conditions at Ta = 25°C

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

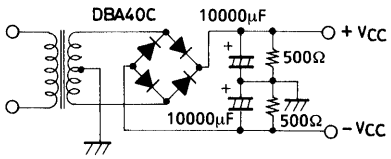
Operating Characteristics

at Ta = 25°C, V_{CC} = ± 55 V, R_L = 8 Ω, VG = 40 dB, Rg = 600 Ω, 100 k LPF ON, R_L (non-inductive)

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}	V_{CC} = ± 66 V	15		120	mA
Output power	P_O	THD = 0.008 %, f = 20 Hz to 20 kHz	120			W
Total harmonic distortion	THD	P_O = 1.0 W, f = 1 kHz			0.008	%
Frequency response	f_L, f_H	P_O = 1.0 W, $^{+0}_{-3}$ dB		20 to 50k		Hz
Input resistance	r_i	P_O = 1.0 W, f = 1 kHz		55		kΩ
Output noise voltage	V_{NO}*	V_{CC} = ± 66 V, Rg = 10 kΩ			1.2	mVrms
Neutral voltage	V_N	V_{CC} = ± 66 V	–70	0	+ 70	mV

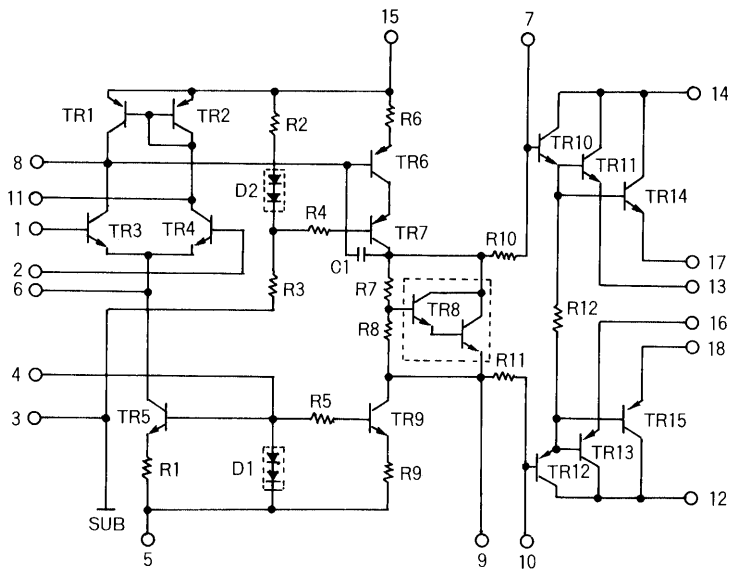
Note: Use rated power supply for test unless otherwise specified.

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

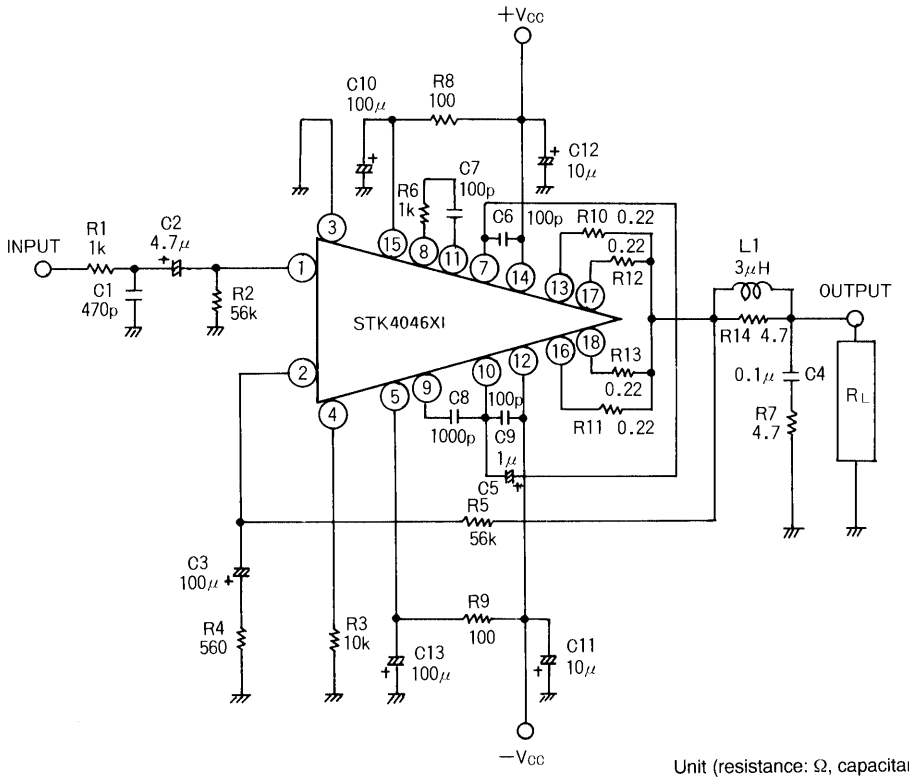


Specified Transformer Power Supply
(MG-250 Equivalent)

Equivalent Circuit

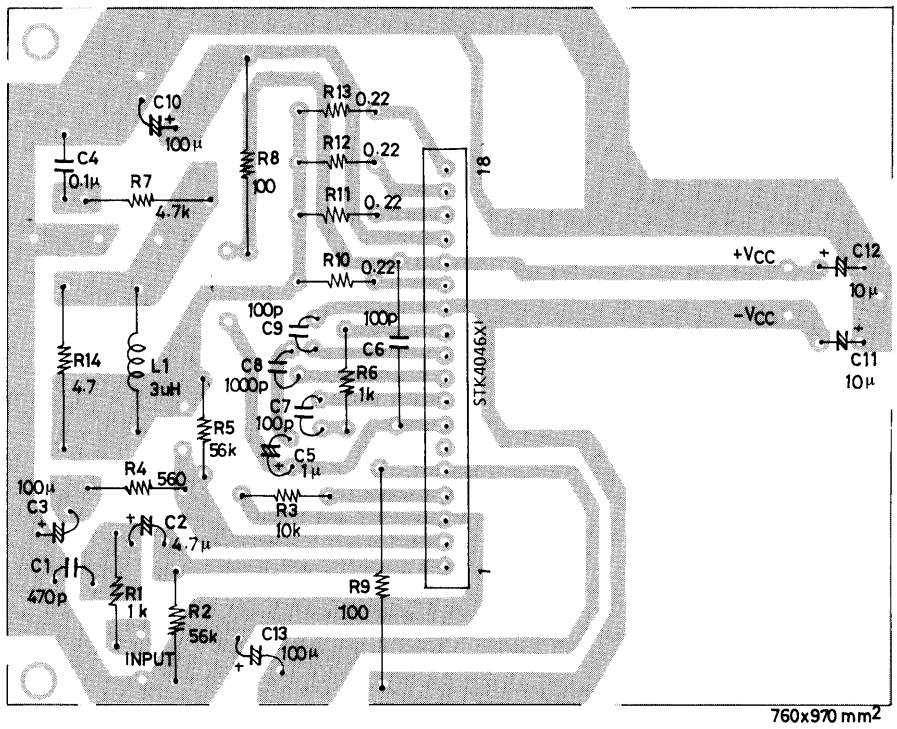


Application Circuit: 120W min Single Channel AF Power Amplifier



Unit (resistance: Ω, capacitance: F)

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



Unit (resistance: Ω, capacitance: F)