



# STK4046V

## AF Power Amplifier (Split Power Supply) (120 W min, THD = 0.08%)

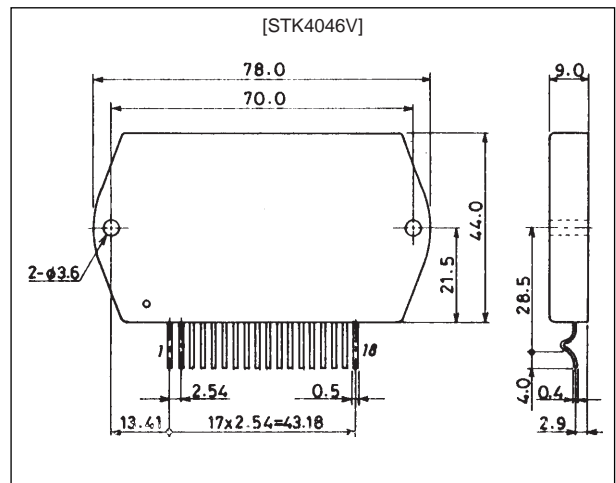
### Features

- Compact packaging supports slimmer set designs.
- Series designed from 20 up to 100 W (200 W) and pin-compatibility (120 to 200 W have 18 pins.)
- Simpler heat sink design facilitates thermal design of slim stereo sets.
- Current mirror circuit application reduces distortion to 0.08%.
- 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	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±80	V
Thermal resistance	θ <sub>j-c</sub>		1.3	°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

#### Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		±55	V
Load resistance	R <sub>L</sub>		8	Ω

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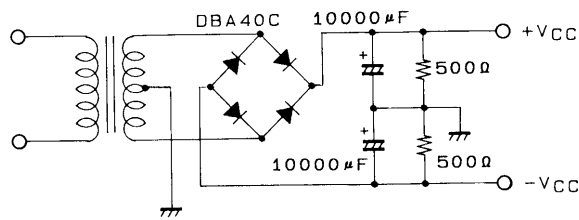
## Operating Characteristics

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 66\text{ V}$	15		120	mA
Output power	$P_O$	THD = 0.08%, $f = 20\text{ Hz to } 20\text{ kHz}$	120			W
Total harmonic distortion	THD	$P_O = 1.0\text{ W}$ , $f = 1\text{ kHz}$			0.08	%
Frequency response	$f_L, f_H$	$P_O = 1.0\text{ W}$ , $+0_{-3}\text{ dB}$		20 to 50 k		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.

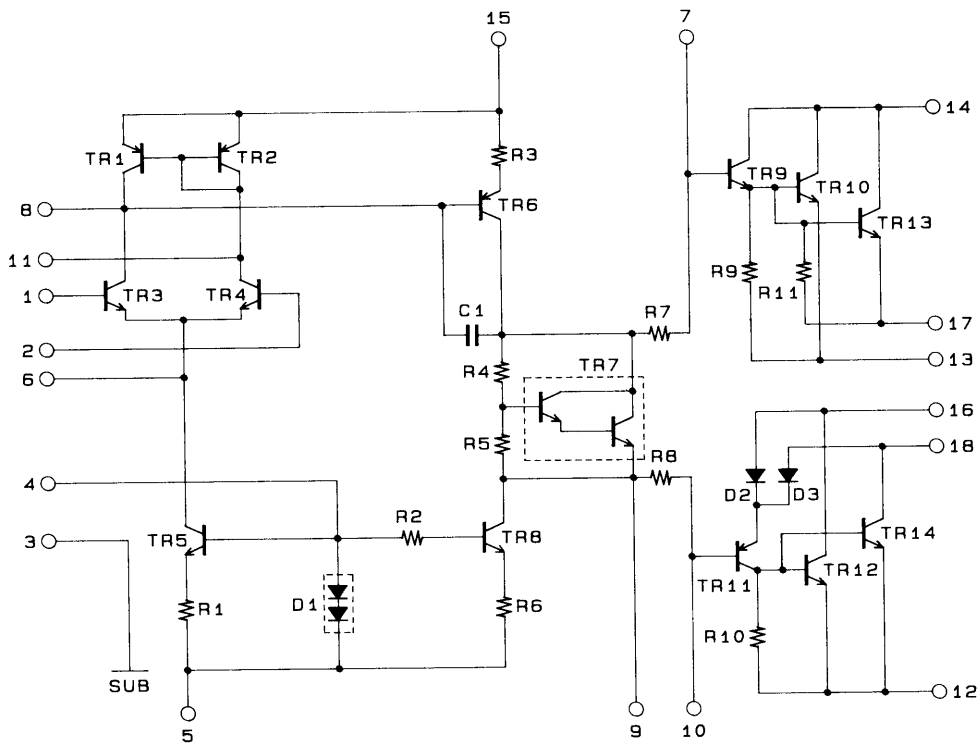
\* Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.



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Specified Transformer Power Supply  
(MG-250 equivalent)

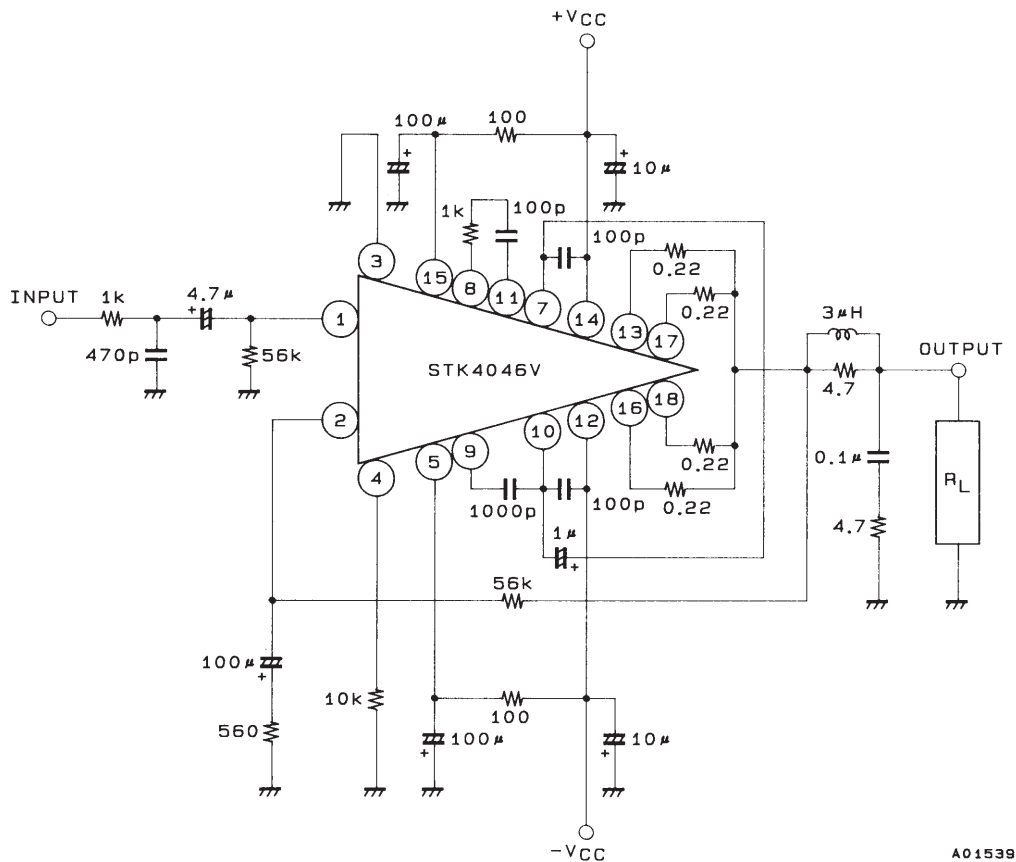
## Equivalent Circuit



A01538

## STK4046V

### Application Circuit: Single-Channel 120 W min. AF Power Amplifier



Unit (resistance:  $\Omega$ , capacitance: F)

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