

Ordering number : EN4592A

Thick Film Hybrid IC

**STK4050V**

## AF Power Amplifier (Split Power Supply) (200 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 reduce 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.

### Specifications

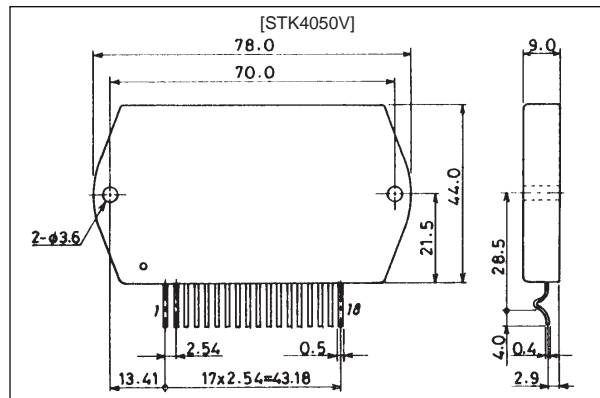
Maximum Ratings at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	$V_{CC\ max}$		$\pm 95$	V
Thermal resistance	$\theta_{j-c}$		0.95	$^\circ\text{C}/\text{W}$
Junction temperature	$T_j$		150	$^\circ\text{C}$
Operating substrate temperature	$T_c$		125	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-30 to +125	$^\circ\text{C}$

### Package Dimensions

unit: mm

4051A



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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	$V_{CC}$		$\pm 66$	V
Load resistance	$R_L$		8	$\Omega$

### Operating Characteristics

at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 66\text{ V}$ ,  $R_L = 8\ \Omega$ ,  $V_G = 40\text{ dB}$ ,  $R_g = 600\ \Omega$ , 100 k LPF ON,  $R_L$  (non-inductive)

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 80\text{ V}$	15		120	mA
Output power	$P_O$	THD = 0.08 %, $f = 20\text{ Hz}$ to $20\text{ kHz}$	200			W
Total harmonic distortion	THD	$P_O = 1.0\text{ W}$ , $f = 1\text{ kHz}$			0.08	%
Frequency response	$f_L, f_H$	$P_O = 1.0\text{ W}$ , $+0$ dB, $-3$ 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	$V_{NO}$	$V_{CC} = \pm 80\text{ V}$ , $R_g = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 80\text{ V}$	-70	0	+70	mV

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

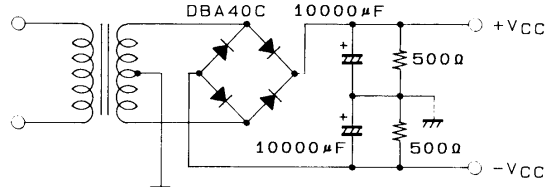
Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.

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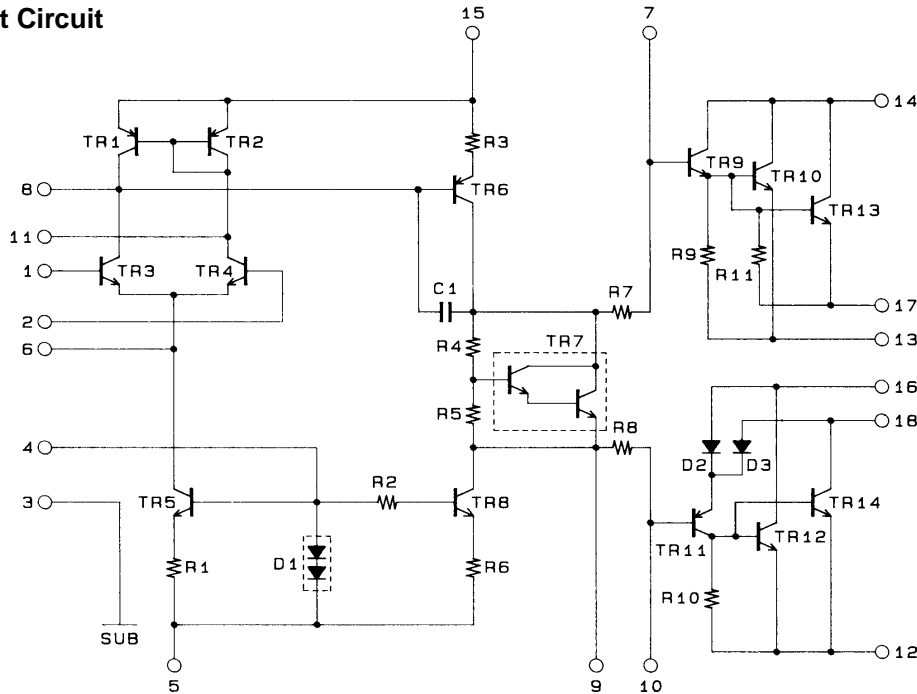
### STK4050V



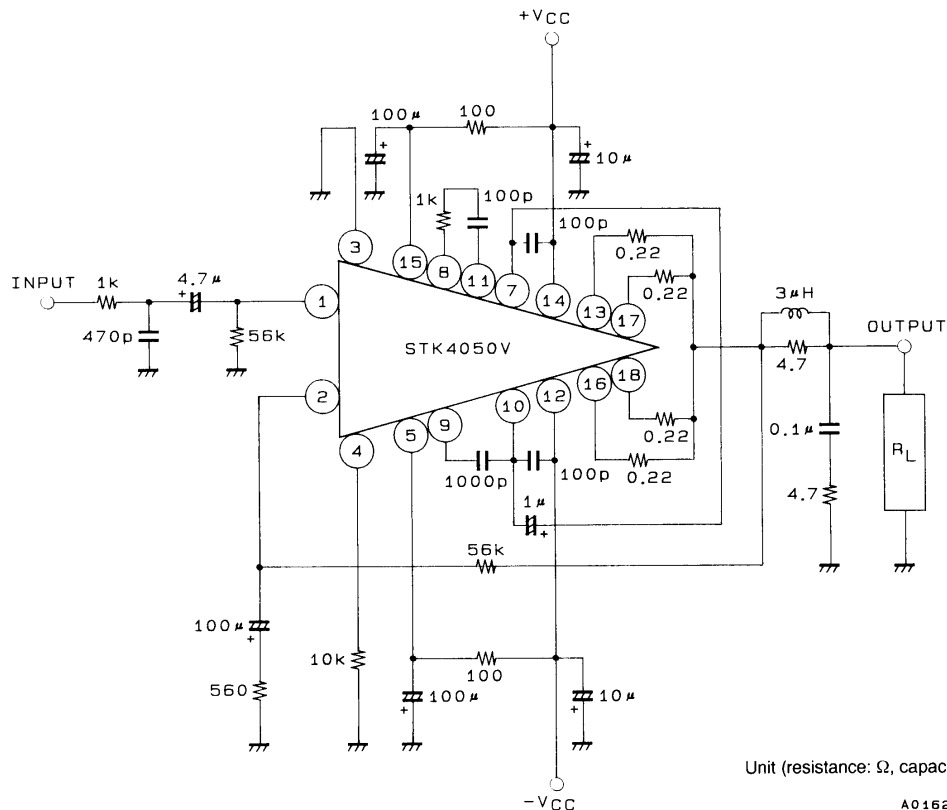
**Specified Transformer Power Supply (MG-250 Equivalent)**

A01237

### Equivalent Circuit



**Application Circuit: 200W min Single Channel AF Power Amplifier**



Unit (resistance: Ω, capacitance: F)

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STK4050V

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