



# STK4221V

## 2-Channel 80 W min AF Power Amplifier (Split Power Supply)

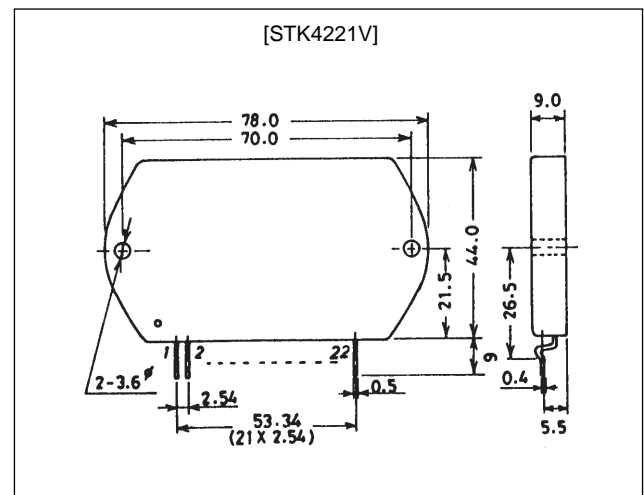
### Features

- The inclusion of a muting circuit on-chip allows all types of impulse noise to be excluded.
- Current mirror circuit application reduces distortion to 0.008%.
- Pin compatible with the STK4201II Series (THD = 0.4%) and the STK4141X Series (THD = 0.02%)

### Package Dimensions

unit: mm

4086A



### Specifications

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

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	$V_{CC}$ max		$\pm 65$	V
Thermal resistance	$\theta_{j-c}$		1.4	$^\circ\text{C}/\text{W}$
Junction temperature	$T_j$		150	$^\circ\text{C}$
Operating case temperature	$T_c$		125	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-30 to +125	$^\circ\text{C}$
Available time for load shorted	$t_s^*$	$V_{CC} = \pm 45\text{ V}$ , $R_L = 8\ \Omega$ , $f = 50\text{ Hz}$ , $P_O = 80\text{ W}$	1	sec

Note: Use a constant voltage power supply as the test power supply unless otherwise specified.

\* Use the transformer power supply shown on the next page when measuring the available time for load shorted and the output noise voltage.

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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	$V_{CC}$		$\pm 45$	V
Load resistance	$R_L$		8	$\Omega$

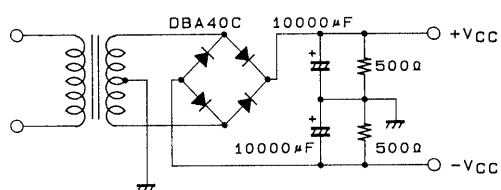
## STK4221V

### Operating Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = \pm 45\text{ V}$ , $R_L = 8\ \Omega$ (noninductive load), $R_G = 600\ \Omega$ , $V_G = 40\ \text{dB}$

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 54\text{ V}$	20	40	100	mA
Output power	$P_O$	THD = 0.08%, $f = 20\text{ Hz to } 20\text{ kHz}$	80			W
Total harmonic distortion	THD	$P_O = 1.0\text{ W}$ , $f = 1\text{ kHz}$			0.08	%
Frequency response	$f_L, f_H$	$P_O = 1.0\text{ W}$ , $-3\text{ dB}$		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	$V_{NO}^*$	$V_{CC} = \pm 54\text{ V}$ , $R_G = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 54\text{ V}$	-70	0	+70	mV
Muting voltage	$V_M$		-2	-5	-10	V

Note: Use a constant voltage power supply as the test power supply unless otherwise specified.

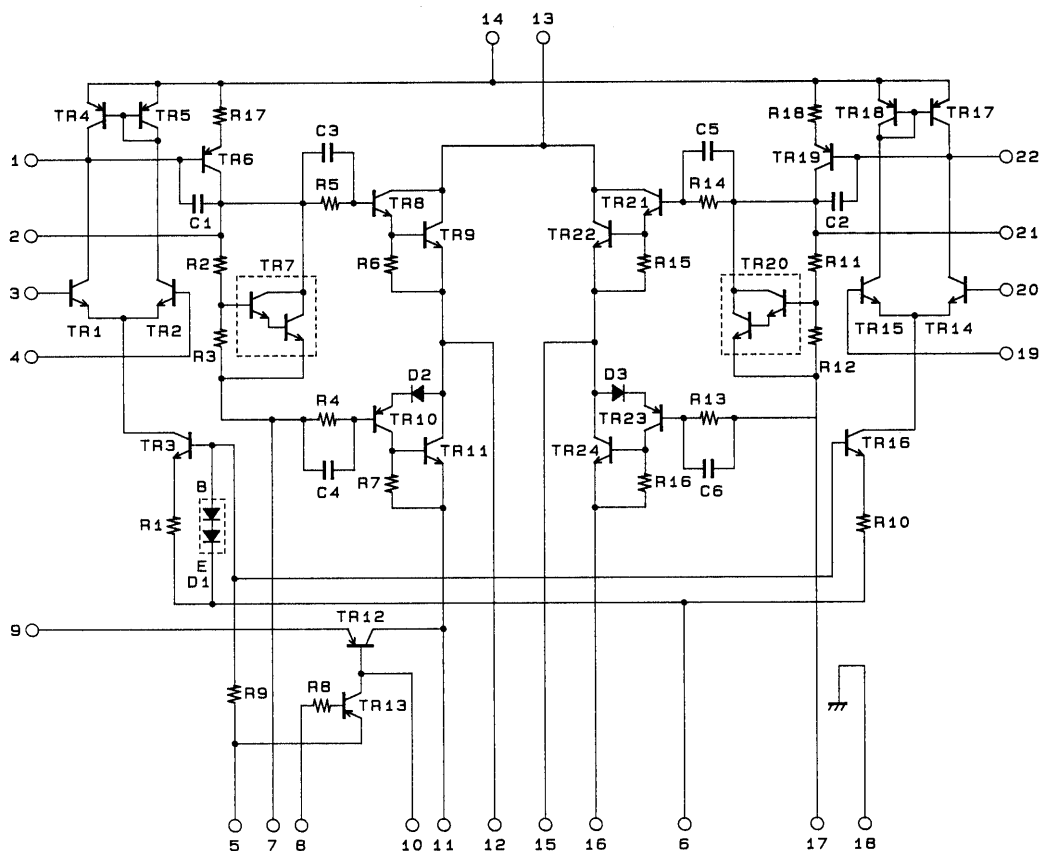
\* The output noise voltage is the peak value measured with an averaging rms scale volt meter. The noise voltage waveform should not include pulse noise.



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### Specified Transformer Power Supply (MG-200 equivalent)

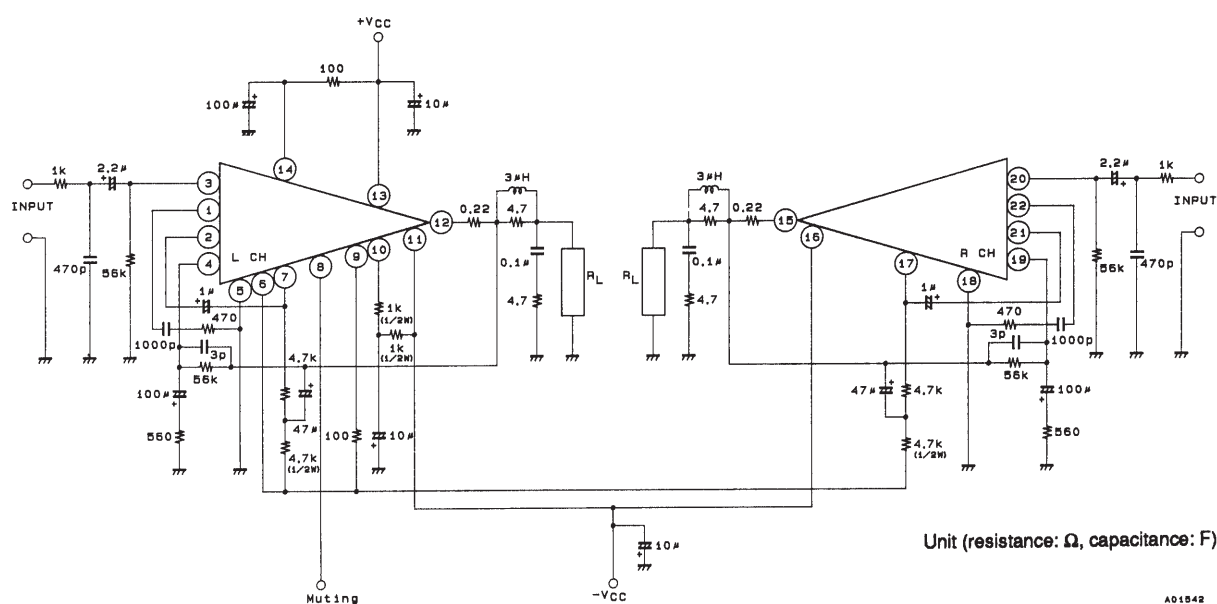
### Equivalent Circuit



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## Equivalent Circuit

### Sample Application Circuit: 2-Channel 80 W min AF Power Amplifier



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