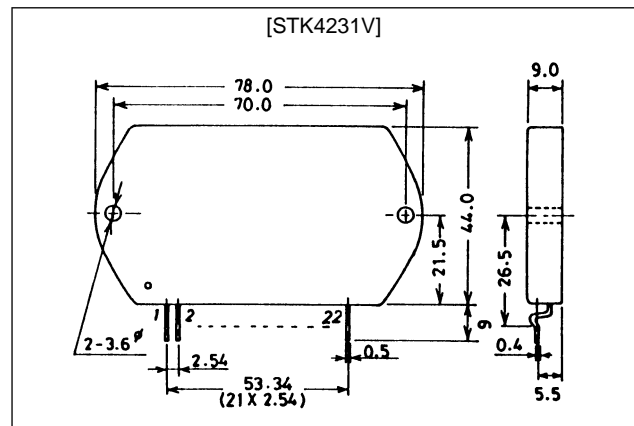


**STK4231V**
**AF Power Amplifier (Split Power Supply)  
(100W+100W min, THD = 0.08%)**
**Features**

- Muting circuit built-in to isolate all types of shock noise
- Current mirror circuit for low 0.08% total harmonic distortion
- 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	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		$\pm 75$	V
Thermal resistance	$\theta_{j-c}$		1.2	$^\circ\text{C}/\text{W}$
Junction temperature	$T_j$		150	$^\circ\text{C}$
Operating substrate temperature	$T_c$		125	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-30 to +125	$^\circ\text{C}$
Available time for load short-circuit <sup>1</sup>	$t_s$	$V_{CC} = \pm 51\text{V}$ , $R_L = 8\Omega$ , $f = 50\text{Hz}$ , $P_O = 100\text{W}$	1	s

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	$V_{CC}$		$\pm 51$	V
Load resistance	$R_L$		8	$\Omega$

## STK4231V

**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = \pm 51\text{V}$ ,  $R_L = 8\Omega$  (noninductive load),  $R_g = 600\Omega$ ,  $V_G = 40\text{dB}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 61.5\text{V}$	20	40	100	mA
Output power	$P_O$	THD = 0.08%, $f = 20\text{Hz}$ to $20\text{kHz}$	100	–	–	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 50k	–	Hz
Input impedance	$r_i$	$P_O = 1.0\text{W}$ , $f = 1\text{kHz}$	–	55	–	$k\Omega$
Output noise voltage <sup>2</sup>	$V_{NO}$	$V_{CC} = \pm 61.5\text{V}$ , $R_g = 10k\Omega$	–	–	1.2	mVrms
Neutral voltage	$V_N$	$V_{CC} = \pm 61.5\text{V}$	-70	0	+70	mV
Muting voltage	$V_M$		-2	-5	-10	V

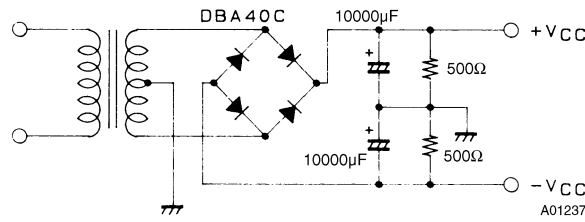
**Notes.**

All tests are measured using a regulated voltage supply unless otherwise specified.

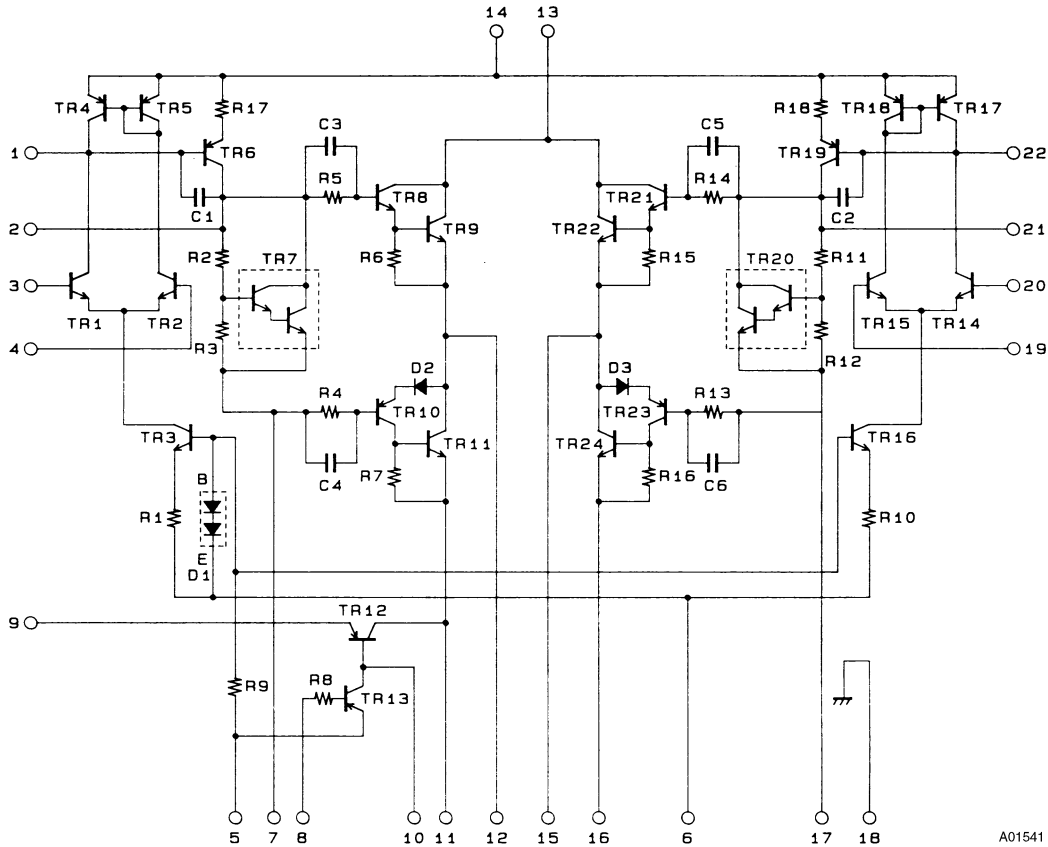
1. Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

2. The output noise voltage is the peak value of an average-reading meter with an rms value scale (VTVM). The noise voltage waveform includes no flicker noise.

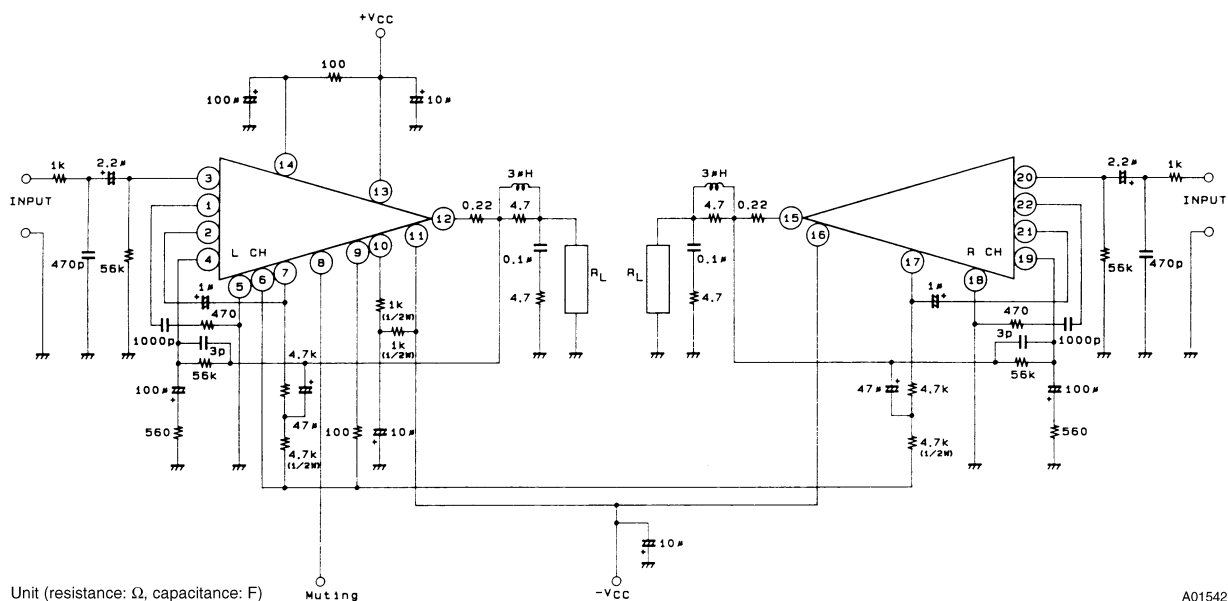
**Specified Transformer Supply (MG-200 or Equivalent)**



**Equivalent Circuit**



## Sample Application Circuit (100W min 2-Channel AF Power Amplifier)



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