

STK4231V

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

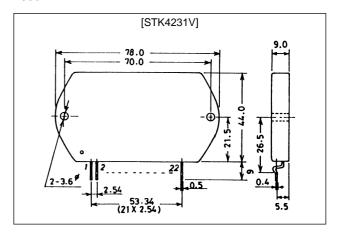
#### **Features**

- 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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±75	V
Thermal resistance	Өј-с		1.2	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Tc		125	°C
Storage temperature	Tstg		-30 to +125	°C
Available time for load short-circuit <sup>1</sup>	t <sub>s</sub>	$V_{CC} = \pm 51V, R_L = 8\Omega,$ f = 50Hz, P <sub>O</sub> = 100W	1	S

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		±51	V
Load resistance	R <sub>L</sub>		8	Ω

# $\textbf{Operating Characteristics} \ \ \text{at Ta} = 25^{\circ}C, \ V_{CC} = \pm 51V, \ R_{L} = 8\Omega \ \ (\text{noninductive load}), \ Rg = 600\Omega, \ VG = 40dB$

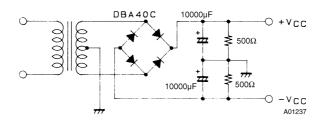
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	Icco	V <sub>CC</sub> = ±61.5V	20	40	100	mA
Output power	P <sub>O</sub>	THD = 0.08%, f = 20Hz to 20kHz	100	_	-	W
Total harmonic distortion	THD	P <sub>O</sub> = 1.0W, f = 1kHz	-	_	0.08	%
Frequency response	f <sub>L</sub> , f <sub>H</sub>	$P_0 = 1.0W, {}^{+0}_{-3}dB$	-	20 to 50k	-	Hz
Input impedance	r <sub>i</sub>	P <sub>O</sub> = 1.0W, f = 1kHz	-	55	-	kΩ
Output noise voltage <sup>2</sup>	V <sub>NO</sub>	$V_{CC} = \pm 61.5 \text{V}, \text{Rg} = 10 \text{k}\Omega$	-	_	1.2	mVrms
Neutral voltage	V <sub>N</sub>	V <sub>CC</sub> = ±61.5V	-70	0	+70	mV
Muting voltage	$V_{M}$		-2	-5	-10	V

#### Notes.

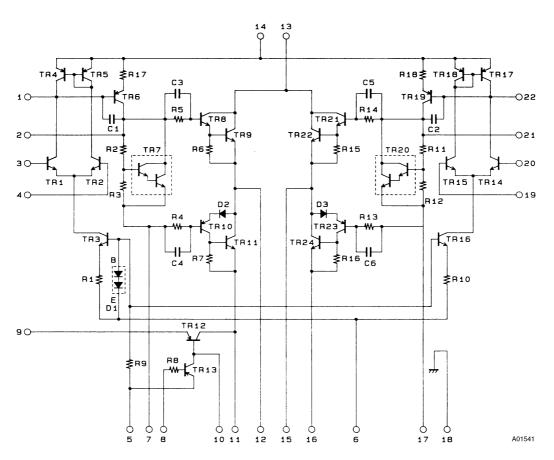
All tests are measured using a regulated voltage supply unless otherwise specified.

- 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.

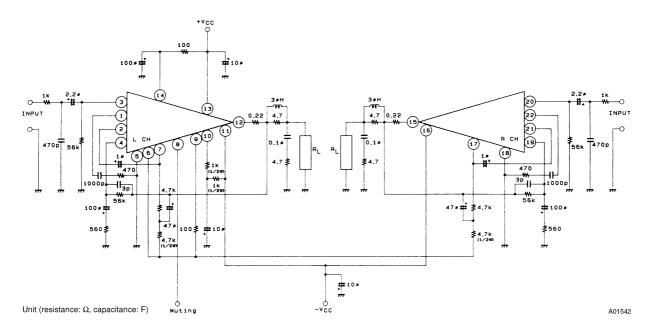
#### **Specified Transformer Supply (MG-200 or Equivalent)**



# **Equivalent Circuit**



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



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