Ordering number: EN 4590B

Thick Film Hybrid IC

STK4231V

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

Features

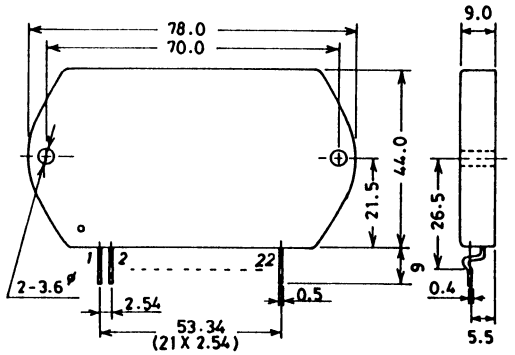
- Muting circuit built-in to isolate all types of shock noise
- Current mirror circuit for low 0.08% total harmonic distortion
- Pin compatible with the STK4201II series (THD = 0.4%) and the STK4141X series (THD = 0.02%)

Package Dimensions

unit: mm

4086A

[STK4231V]



Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		±75	V
Thermal resistance	θj-c		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[1]	t_s	V_{CC} = ±51V, R_L = 8Ω, f = 50Hz, P_O = 100W	1	s

Recommended Operating Conditions at Ta = 25°C

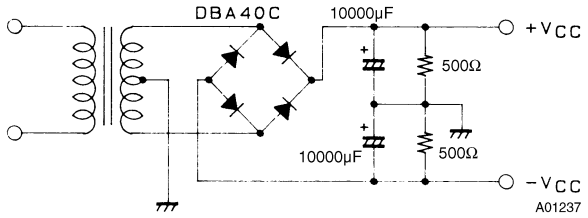
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		±51	V
Load resistance	R_L		8	Ω

Operating Characteristics at Ta = 25°C, V_{CC} = ±51V, R_L = 8Ω (noninductive load), Rg = 600Ω, VG = 40dB

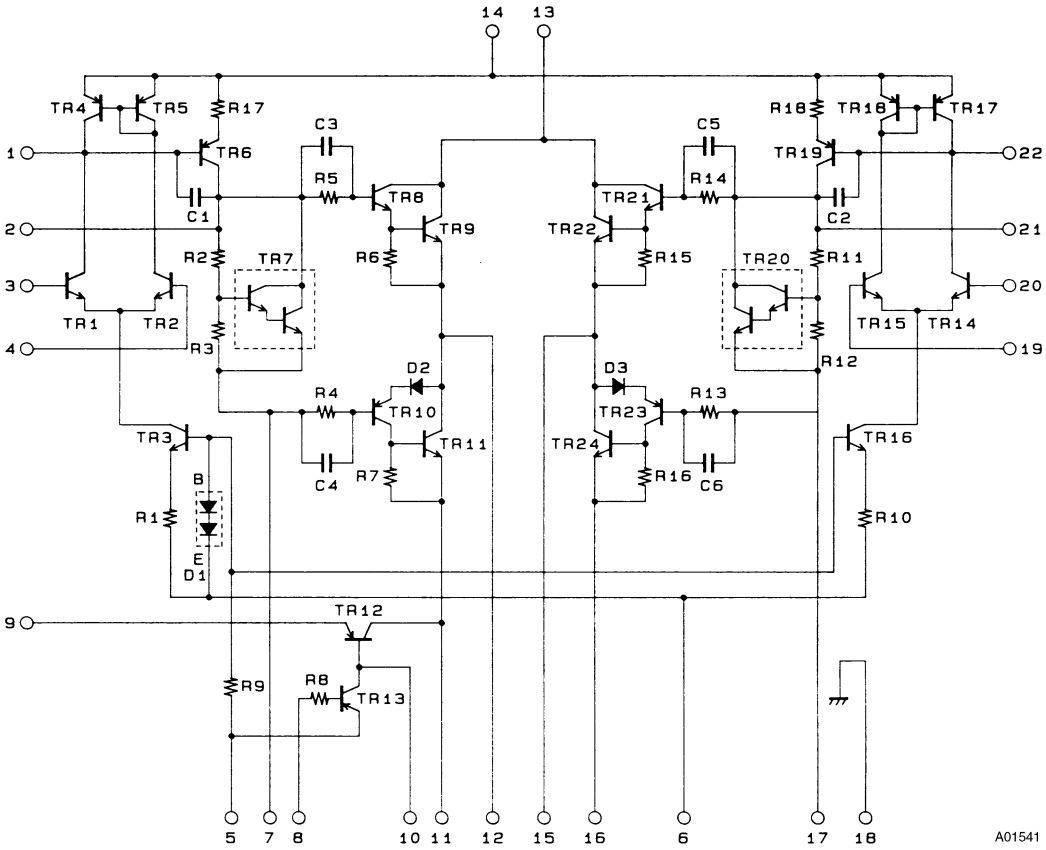
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO}	V_{CC} = ±61.5V	20	40	100	mA
Output power	P_O	THD = 0.08%, f = 20Hz to 20kHz	100	–	–	W
Total harmonic distortion	THD	P_O = 1.0W, f = 1kHz	–	–	0.08	%
Frequency response	f_L, f_H	P_O = 1.0W, $^{+0}_{-3}$dB	–	20 to 50k	–	Hz
Input impedance	r_i	P_O = 1.0W, f = 1kHz	–	55	–	kΩ
Output noise voltage[2]	V_{NO}	V_{CC} = ±61.5V, Rg = 10kΩ	–	–	1.2	mVrms
Neutral voltage	V_N	V_{CC} = ±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.

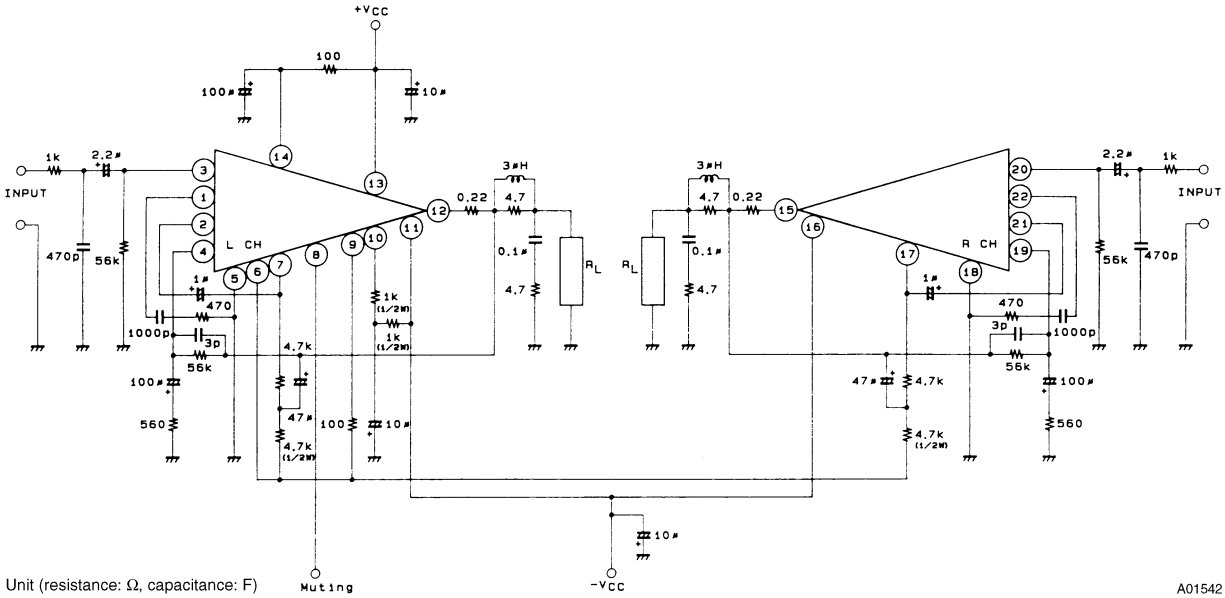
Specified Transformer Supply (MG-200 or Equivalent)



Equivalent Circuit



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



Unit (resistance: Ω, capacitance: F)