



STK4131V

AF Power Amplifier (Split Power Supply) (20 W + 20 W min, THD = 0.08%)

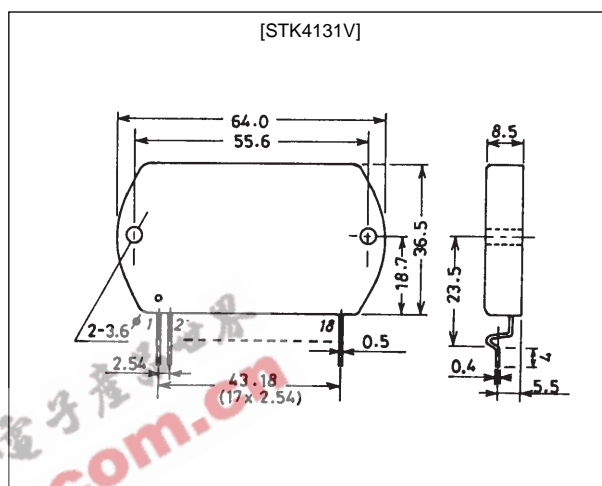
Features

- Built-in muting circuit cuts off various kinds of pop noises.
- Current mirror circuit provides low distortion (THD = 0.08%).
- Pin compatible with the STK4102II series, forming a series of products with output powers from 15 W/ch to 120 W/ch.

Package Dimensions

unit : mm

4040



Specifications

Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Condition | Rating | Unit |
|---------------------------------|----------------|--|-------------|------|
| Maximum supply voltage | $V_{CC\ max}$ | | ± 37 | V |
| Thermal resistance | θ_{j-c} | | 2.6 | °C/W |
| Junction temperature | $T_j\ max$ | | 150 | °C |
| Operating case temperature | T_c | | 125 | °C |
| Storage temperature | T_{stg} | | -30 to +125 | °C |
| Available time for load shorted | t_s | $V_{CC} = \pm 24.5\ V, R_L = 8\ \Omega, f = 50\ Hz, P_O = 20\ W$ | 2 | s |

Recommended Operating Conditions at Ta = 25°C

| Parameter | Symbol | Condition | Rating | Unit |
|----------------------------|----------|-----------|------------|----------|
| Recommended supply voltage | V_{CC} | | ± 24.5 | V |
| Load resistance | R_L | | 8 | Ω |

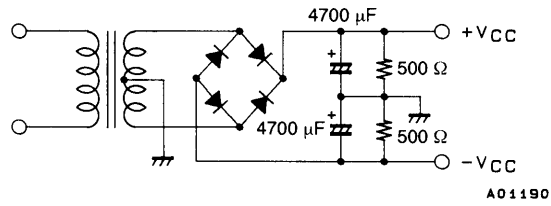
Operating Characteristics

at Ta = 25°C, $V_{CC} = \pm 24.5\ V, R_L = 8\ \Omega, R_g = 600\ \Omega, V_G = 40\ dB, R_L$: non-inductive load

| Parameter | Symbol | Condition | Rating | | | Unit |
|---------------------------|------------|--|--------|------------|------|------------|
| | | | min | typ | max | |
| Quiescent current | I_{CCO} | $V_{CC} = \pm 29.5\ V$ | 20 | 40 | 100 | mA |
| Output power | $P_O (1)$ | THD = 0.08%, f = 20 Hz to 20 kHz | 20 | | | W |
| | $P_O (2)$ | $V_{CC} = \pm 21.5\ V, THD = 0.2\%, R_L = 4\ \Omega, f = 1\ kHz$ | 20 | | | W |
| Total harmonic distortion | THD | $P_O = 1\ W, f = 1\ kHz$ | | | 0.08 | % |
| Frequency response | f_L, f_H | $P_O = 1\ W, \begin{matrix} +0 \\ -3 \end{matrix} dB$ | | 20 to 50 k | | Hz |
| Input resistance | r_i | $P_O = 1\ W, f = 1\ kHz$ | | 55 | | k Ω |
| Output noise voltage | V_{NO} | $V_{CC} = \pm 29.5\ V, R_g = 10\ k\Omega$ | | | 1.2 | mVrms |
| Neutral voltage | V_N | $V_{CC} = \pm 29.5\ V$ | -70 | 0 | +70 | mV |
| Muting voltage | V_M | | -2 | -5 | -10 | V |

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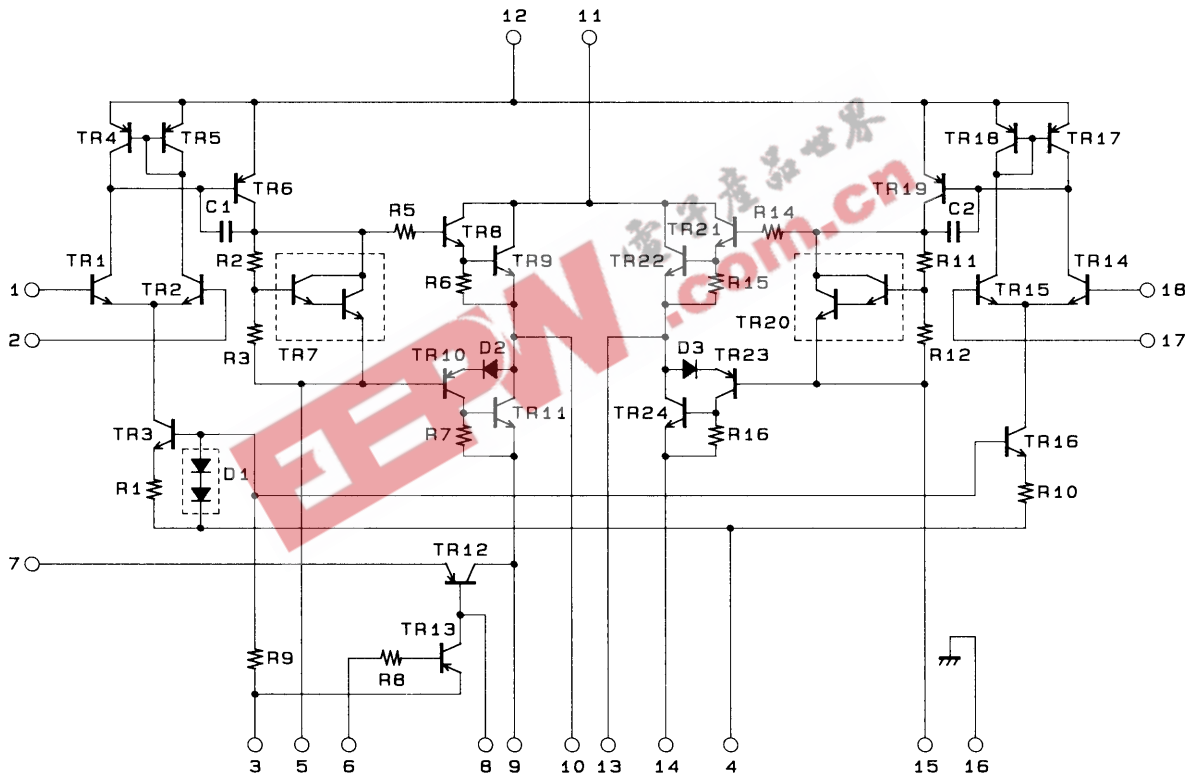


Specified Transformer Power Supply (RP-25 equivalent)

Notes

- Use a constant voltage power supply for the test power supply unless otherwise noted.
- Use the transformer power supply shown in the figure above when measuring the available time for load shorted and the output noise voltage.
- The output noise voltage is the peak value measured with an averaging rms scale volt meter (VTVM). A 50 Hz AC stabilized power supply should be used to eliminate the effects of AC primary line flicker noise when an AC power supply is used.

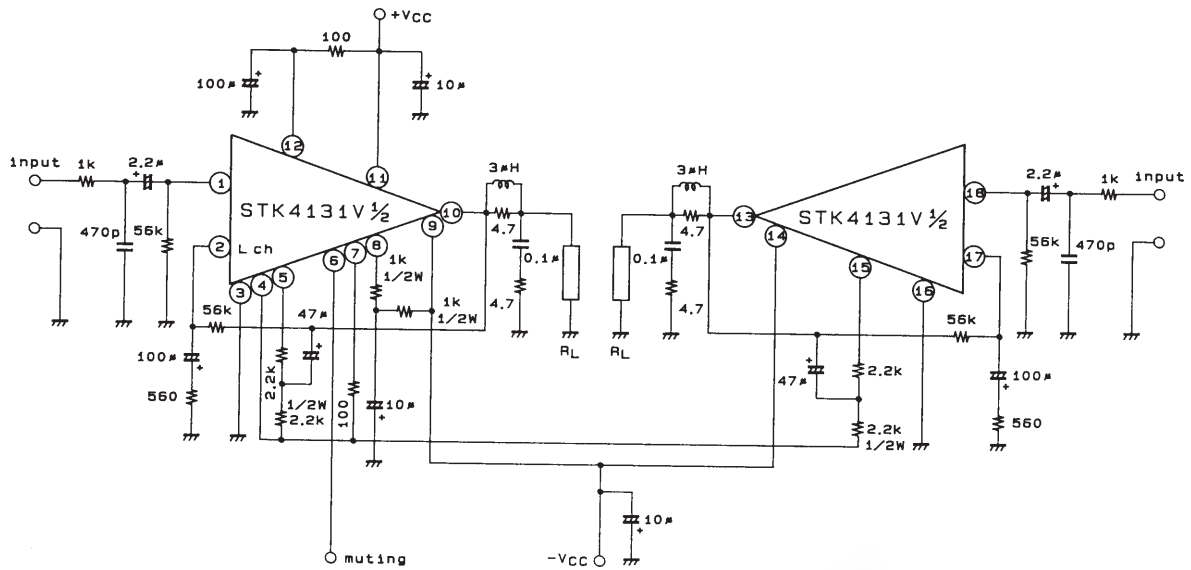
Equivalent Circuit



A01191

STK4131V

Sample Application Circuit: 20 W (minimum) 2-channel AF power amplifier



A01193

Unit (resistance: Ω , capacitance: F)



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