Ordering number : EN4478A

Thick Film Hybrid IC

STK4131V

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

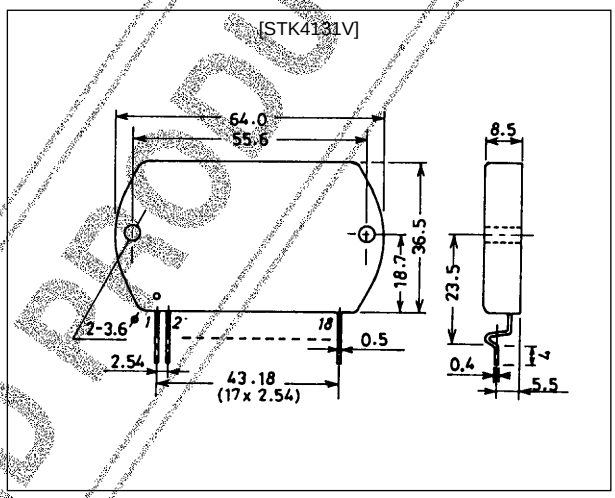
Features

- 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	θj-c		2.6	°C/W
Junction temperature	T_j max		150	°C
Operating case temperature	T_c		125	°C
Storage temperature	Tstg		–30 to +125	°C
Available time for load shorted	t_s	V_{CC} = ±24.5 V, R_L = 8 Ω, 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} = ±24.5 V, R_L = 8 Ω, Rg = 600 Ω, VG = 40 dB, R_L: non-inductive load

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}	V_{CC} = ±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} = ±21.5 V, THD = 0.2%, R_L = 4 Ω, 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, $^{+0}_{-3}$ dB		20 to 50 k		Hz
Input resistance	r_i	P_O = 1 W, f = 1 kHz		55		kΩ
Output noise voltage	V_{NO}	V_{CC} = ±29.5 V, Rg = 10 kΩ			1.2	mVrms
Neutral voltage	V_N	V_{CC} = ±29.5 V	–70	0	+70	mV
Muting voltage	V_M		–2	–5	–10	V

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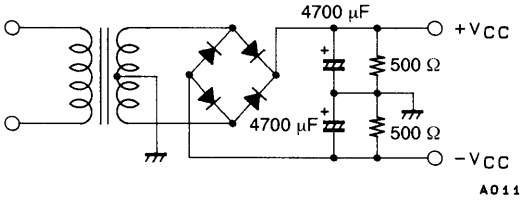
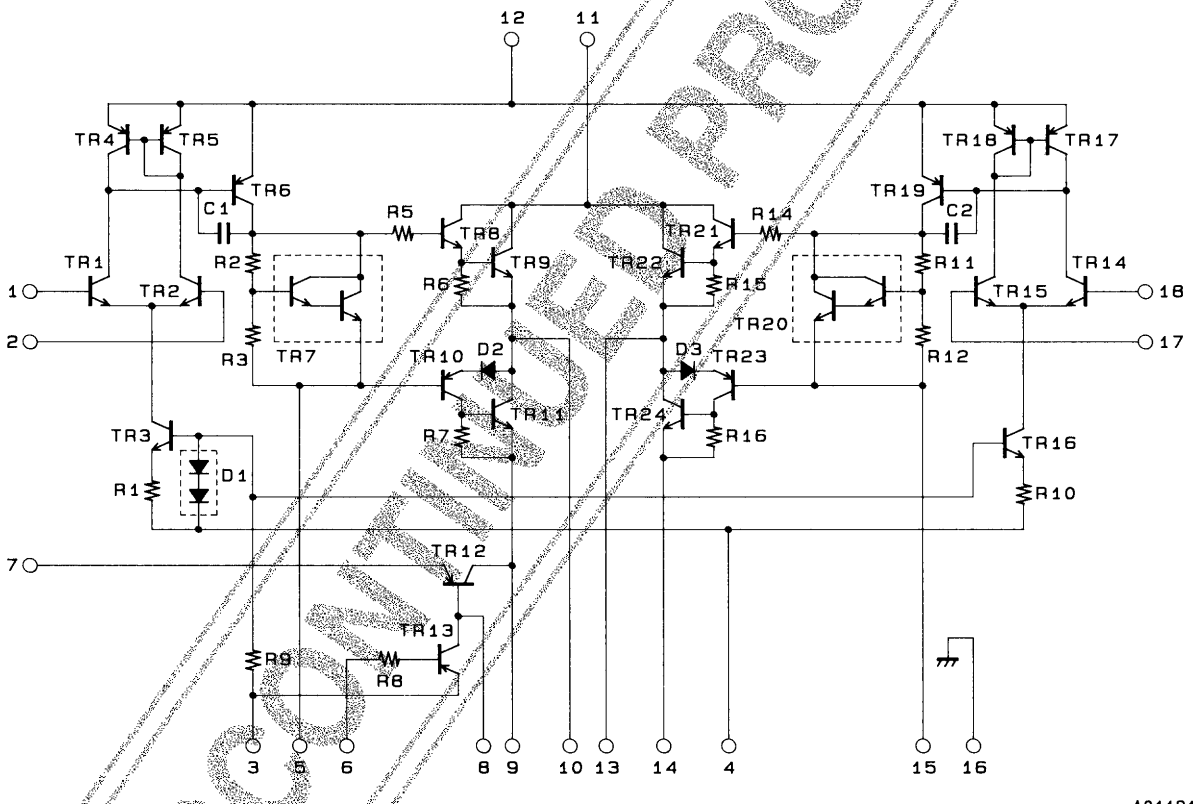


Specified Transformer Power Supply (RP-25 equivalent)

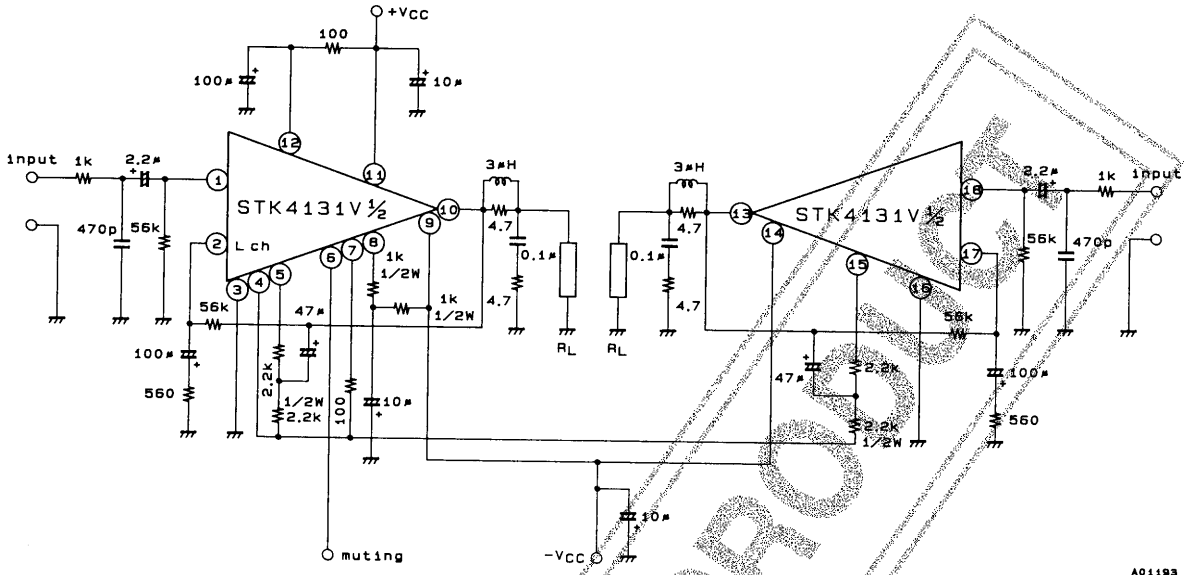
Notes

- 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



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



Unit (resistance: Ω, capacitance: F)