



STK4152II

AF Power Amplifier (Split Power Supply) (30W + 30W min, THD = 0.4%)

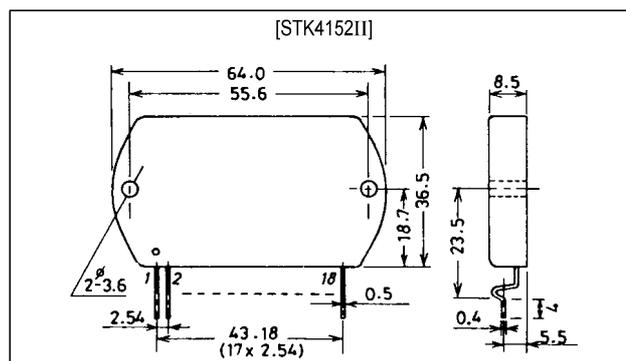
Features

- The STK4102II series (STK4152II) and STK4101V series (high-grade type) are pin-compatible in the output range of 6W to 50W and enable easy design.
- Small-sized package whose pin assignment is the same as that of the STK4101II series
- Built-in muting circuit to cut off various kinds of pop noise
- Greatly reduced heat sink due to substrate temperature 125°C guaranteed
- Excellent cost performance

Package Dimensions

unit: mm

4040



Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		± 42	V
Thermal resistance	θ_{j-c}		2.1	$^\circ\text{C}/\text{W}$
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	t_s	$V_{CC} = \pm 27.5\text{V}$, $R_L = 8\Omega$, $f = 50\text{Hz}$, $P_o = 30\text{W}$	2	s

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

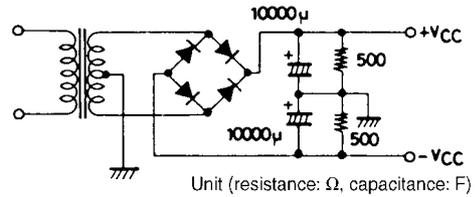
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		± 27.5	V
Load resistance	R_L		8	Ω

STK4152II

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 27.5\text{V}$, $R_L = 8\Omega$, $R_g = 600\Omega$, $V_G = 40\text{dB}$,
 R_L : non-inductive load

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO}	$V_{CC} = \pm 33\text{V}$	20	40	100	mA
Output power	$P_o(1)$	THD = 0.4%, $f = 20\text{Hz to } 20\text{kHz}$	30			W
	$P_o(2)$	$V_{CC} = \pm 25\text{V}$, THD = 1.0%, $R_L = 4\Omega$, $f = 1\text{kHz}$	35			W
Total harmonic distortion	THD	$P_o = 1.0\text{W}$, $f = 1\text{kHz}$			0.3	%
Frequency response	f_L, f_H	$P_o = 1.0\text{W}$, $+0$ -3 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	V_{NO}	$V_{CC} = \pm 33\text{V}$, $R_g = 10k\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 33\text{V}$	-70	0	+70	mV
Muting voltage	V_M		-2	-5	-10	V

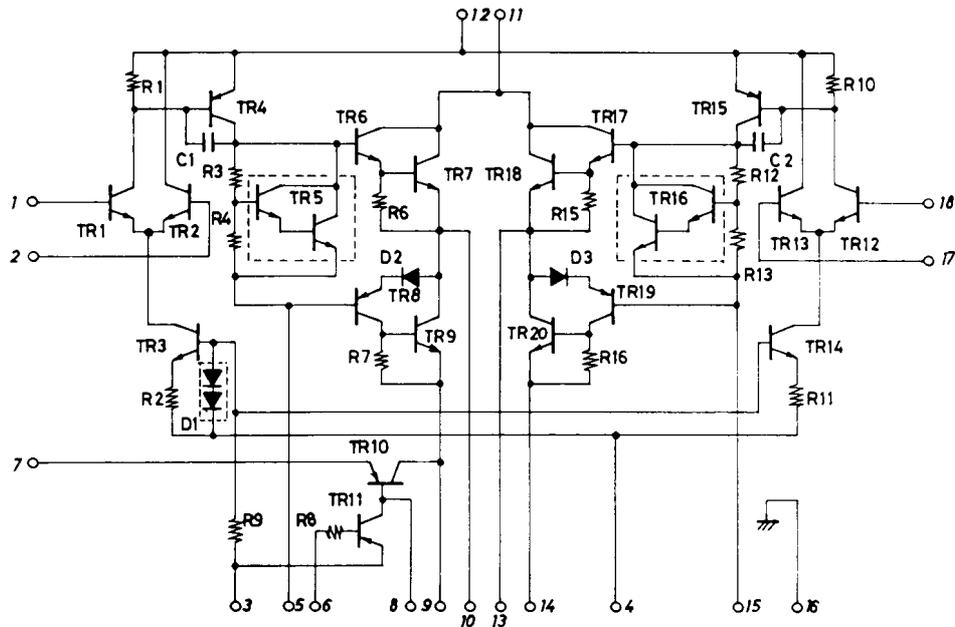
Notes. For power supply at the time of test, use a constant-voltage power supply unless otherwise specified.
 For measurement of the available time for load short-circuit and output noise voltage, use the specified transformer power supply shown right.
 The output noise voltage is represented by the peak value on rms scale (VTVM) of average value indicating type. For AC power supply, use an AC stabilized power supply (50Hz) to eliminate the effect of flicker noise in AC primary line.



Unit (resistance: Ω , capacitance: F)

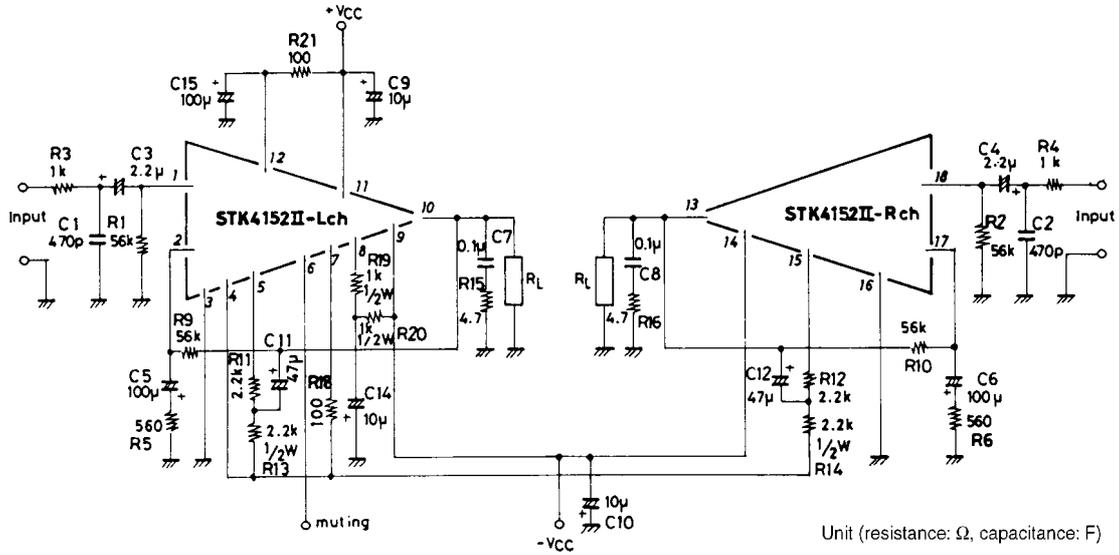
Specified Transformer Power Supply
(Equivalent to RP-25)

Equivalent Circuit



STK4152II

Sample Application Circuit : 30W min 2-channel AF power amplifier



Sample Printed Circuit Pattern for Application Circuit (Cu-foiled side)

