



STK4038 II

AF Power Amplifier (Split Power Supply) (60 W min, THD = 0.4%)

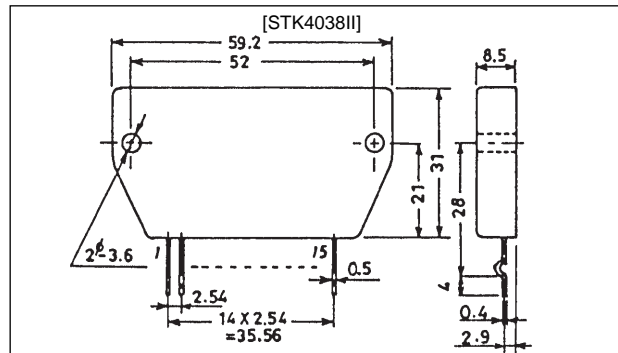
Features

- Compact packaging supports slimmer set designs
- Series designed for 20 up to 200 W and pin-compatibility
- Simpler heat sink design facilitates thermal design of slim stereo sets
- The pulse noises associated with turning the power on and off have been reduced by the adoption of fixed current circuits
- Supports addition of electronic circuits for thermal shutdown and load-short protection circuit as well as pop noise muting which occurs when the power supply switch is turned on and off

Package Dimensions

unit: mm

4033



Specifications

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

Parameter	Symbol	Condition	Rating	Unit
Maximum supply voltage	V_{CC} max		± 57	V
Thermal resistance	$\theta_j\text{-c}$		1.4	$^\circ\text{C}/\text{W}$
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 shorted	t_S^{*1}	$V_{CC} = \pm 38\text{ V}$, $R_L = 8\ \Omega$, $f = 50\text{ Hz}$, $P_O = 60\text{ W}$	2	s

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

Parameter	Symbol	Condition	Rating	Unit
Recommended supply voltage	V_{CC}		± 38	V
Load resistance	R_L		8	Ω

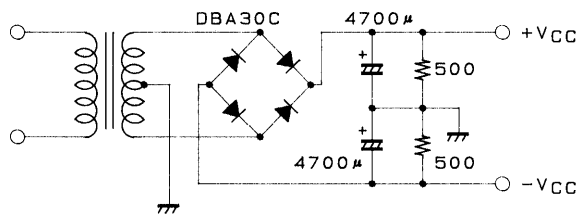
Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 38\text{ V}$, $R_L = 8\ \Omega$, $V_G = 40\text{ dB}$, $R_g = 600\ \Omega$, R_L (non-inductive)

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$V_{CC} = \pm 45.5\text{ V}$	10	20	50	mA
Output power	P_O (1)	THD = 0.4%, $f = 20\text{ Hz}$ to 20 kHz	60			W
	P_O (2)	$V_{CC} = \pm 32.5\text{ V}$, THD = 1.0%, $R_L = 4\ \Omega$, $f = 1\text{ kHz}$	60			W
Total harmonic distortion	THD	$P_O = 1.0\text{ W}$, $f = 1\text{ kHz}$			0.3	%
Frequency response	f_L, f_H	$P_O = 1.0\text{ W}$, $+0$ to -3 dB		20 to 50k		Hz
Input resistance	r_i	$P_O = 1.0\text{ W}$, $f = 1\text{ kHz}$		55		k Ω
Output noise voltage	V_{NO}^{*2}	$V_{CC} = \pm 45.5\text{ V}$, $R_g = 10\text{ k}\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 45.5\text{ V}$	-70	0	+70	mV

Note: Use rated power supply for test unless otherwise specified.

1. Use the transformer power supply shown on the next page when measuring the available time for load shorted and the output noise voltage.
2. Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.

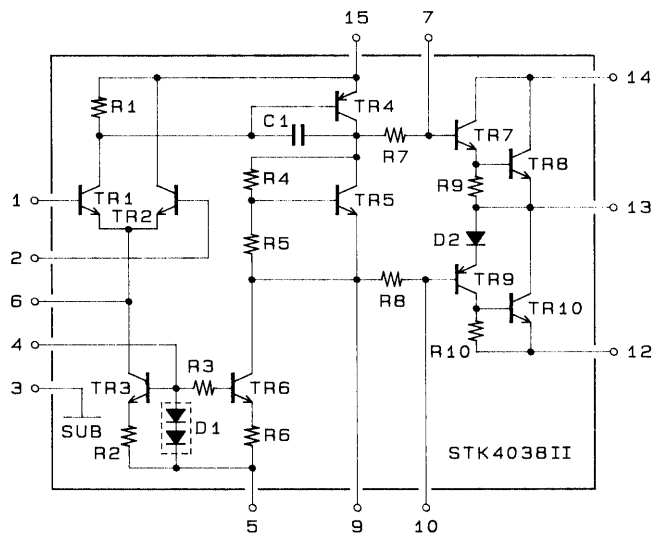
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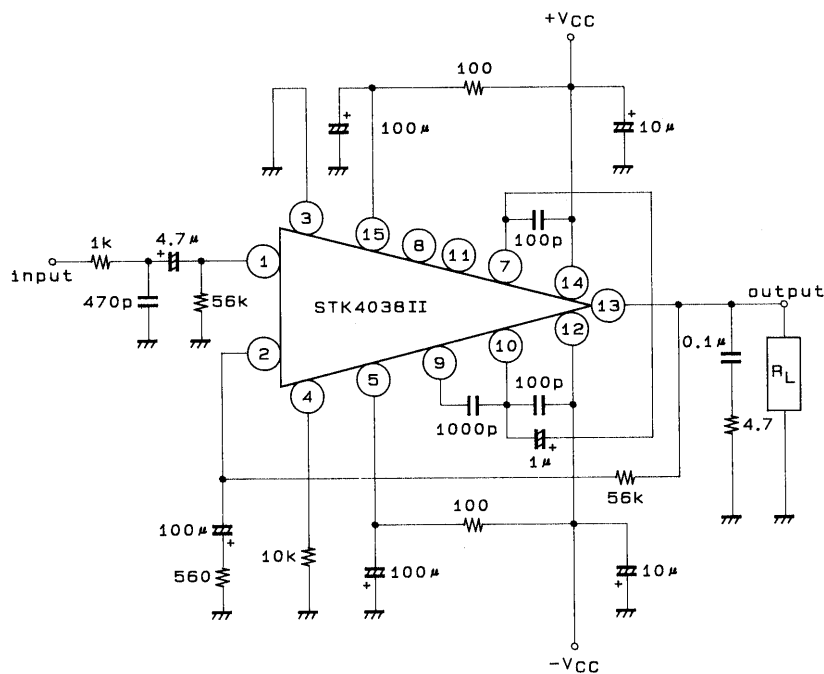
Unit (resistance: Ω , capacitance: F)

Specified Transformer Power Supply
(RP-25 equivalent)

Equivalent Circuit



Application Circuit: 60 W min AF Power Amplifier



Unit (resistance: Ω , capacitance: F)

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