

**STK4028X**

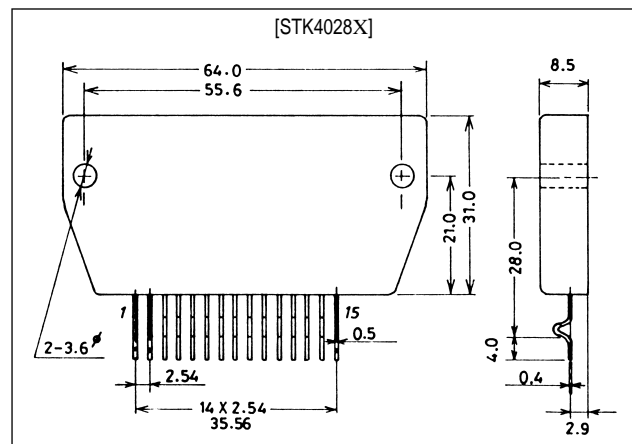
AF Power Amplifier (Split Power Supply) (30W min, THD = 0.018%)

Features

- Compact packaging supports slimmer set designs
- Series designed for 30 up to 100W and pin-compatibility
- Simpler heat sink design facilitates thermal design of slim stereo sets
- Current mirror circuit application reduces distortion to 0.018%
- Supports addition of electronic circuits for thermal shut-down 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

4062

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	$V_{CC \text{ max}}$		± 42	V
Thermal resistance	θ_{j-c}		2.1	$^\circ\text{C/W}$
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^*1	$V_{CC} = \pm 29\text{V}$, $R_L = 8\Omega$, $f = 50\text{Hz}$, $P_o = 30\text{W}$	2	s

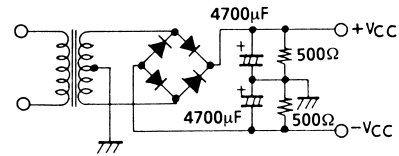
Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 29\text{V}$, $R_L = 8\Omega$, $V_G = 40\text{dB}$, $R_g = 600\Omega$, 10kLPF ON,
 R_L : Non-inductive load

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO}	$V_{CC} = \pm 35.5\text{V}$	15		120	mA
Output power	$P_O(1)$	THD = 0.018%, $f = 20\text{Hz}$ to 20kHz	30			W
	$P_O(2)$	$V_{CC} = \pm 26\text{V}$, THD = 0.04%, $R_L = 4\Omega$, $f = 1\text{kHz}$	35			W
Total harmonic distortion	THD	$V_{CC} = \pm 29\text{V}$, $f = 1\text{kHz}$, $P_O = 1.0\text{W}$			0.008	%
Frequency characteristic	f_L, f_H	$V_{CC} = \pm 29\text{V}$, $P_O = 1.0\text{W}$, $+0, -3$ dB		20 to 50k		Hz
Input impedance	r_i	$V_{CC} = \pm 29\text{V}$, $f = 1\text{kHz}$, $P_O = 1.0\text{W}$		55		k Ω
Output noise voltage	$V_{NO} *2$	$V_{CC} = \pm 35.5\text{V}$, $R_g = 10\text{k}\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC} = \pm 35.5\text{V}$	-70	0	+70	mV

Notes. For power supply at the time of test, use a constant-voltage power supply unless otherwise specified.

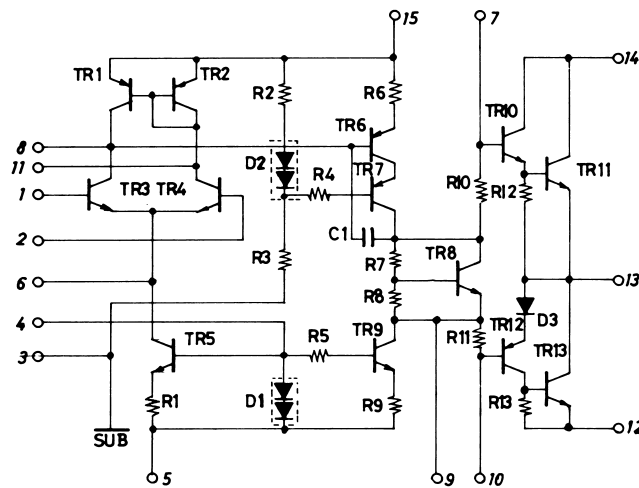
*1 For measurement of available time for load short-circuit and output noise voltage, use the specified transformer power supply shown right.

*2 The output noise voltage is represented by the peak value on rms scale (VTVM) of average value indicating type. The noise voltage waveform includes no flicker noise.

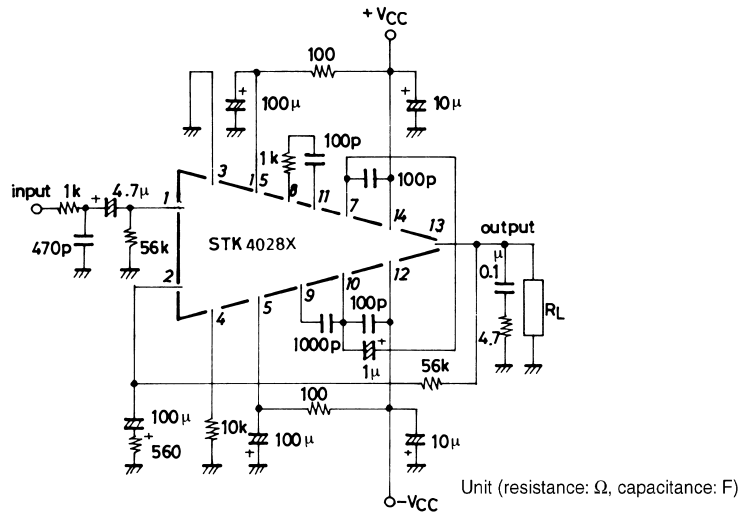


Specified Transformer Power Supply
(Equivalent to RP-25)

Equivalent Circuit



Sample Application Circuit: 30W min 1 channel AF Power Amplifier



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