Ordering number: EN4671A

Thick Film Hybrid IC

STK4028X

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

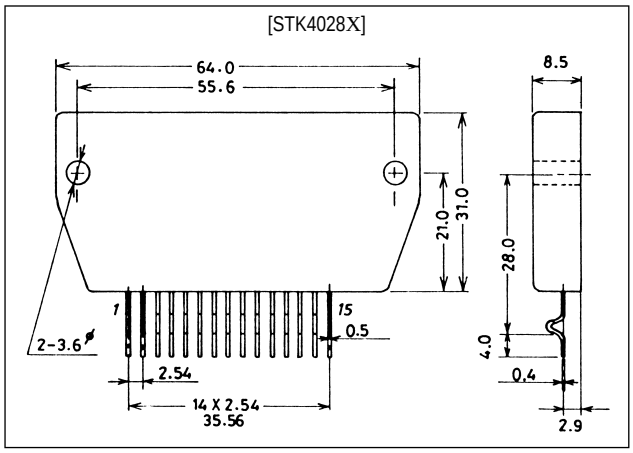
Features

- 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 additon 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

4062



Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC} max		±42	V
Thermal resistance	θj-c		2.1	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Tc		125	°C
Storage temperature	Tstg		–30 to +125	°C
Available time for load short-circuit	t_s *1	V_{CC} = ±29V, R_L = 8Ω, f = 50Hz, Po = 30W	2	s

Operating Characteristics

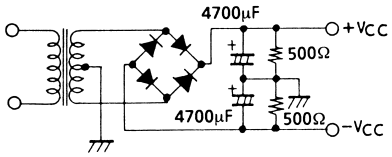
at Ta = 25°C, V_{CC} = ±29V, R_L = 8Ω, VG = 40dB, Rg = 600Ω, 10kLPF ON,
R_L : Non-inductive load

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

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

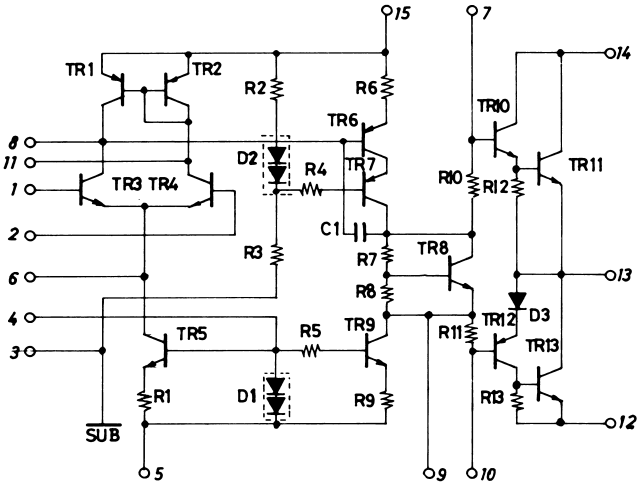
*1 For measurement of available time for load short-circuit and output noise voltage, use the specified transformer power supply shown right.

*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.

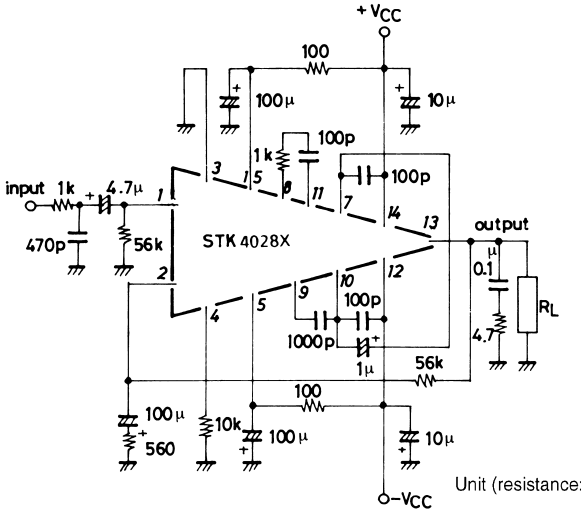


Specified Transformer Power Supply
(Equivalent to RP-25)

Equivalent Circuit



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



Unit (resistance: Ω, capacitance: F)