

SANYO

No. ※ 5172

STK405-110**2ch AF Power Amplifier (Split Power Supply)
70W + 70W min, THD = 10%****Preliminary****Overview**

The STK405-110, a member of the STK405-000 series, is a low-cost, 2-channel audio power amplifier hybrid IC that is ideal for a wide range of stereo sets. It has dedicated 6Ω output drive, in contrast with the STK401-000 series which supports $6\Omega/3\Omega$ output drive.

Features

- Class B amplifiers
- Output load impedance $R_L = 6\Omega$ support
- EIAJ-output compatible ($f = 1\text{kHz}$, THD = 10%)
- Low supply switching shock noise
- Pin assignment grouped into individual blocks of inputs, outputs and supply lines to minimize the adverse effects of pattern layout on operating characteristics
- External bootstrap circuit not necessary
- Standby operation possible using external circuit
- Voltage gain $V_G = 26\text{dB}$ for easy gain distribution within the set
- Member of 10W/ch to 80W/ch pin-compatible series

Series Organization

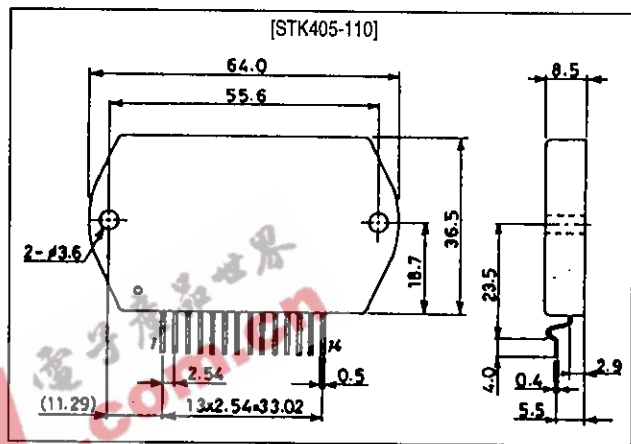
The following devices form a series with differing output capacity. Some of the following devices are under development. Contact your Sanyo sales representative if you require more detailed information.

Type No.	Output power	Supply voltage [V]	
		$V_{CC\text{ max}}$	V_{CC}
STK405-010	10W + 10W	± 26.0	± 14.0
STK405-030	20W + 20W	± 30.5	± 18.5
STK405-050	30W + 30W	± 34.5	± 22.0
STK405-070	40W + 40W	± 39.0	± 25.0
STK405-090	50W + 50W	± 42.0	± 26.5
STK405-100	60W + 60W	± 45.0	± 29.0
STK405-110	70W + 70W	± 50.0	± 31.0
STK405-120	80W + 80W	± 52.5	± 33.0

Package Dimensions

unit: mm

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Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		±50.0	V
Thermal resistance	θ _{j-c}	Per power transistor	1.8	°C/W
Junction temperature	T _j		150	°C
Operating substrate temperature	T _c		125	°C
Storage temperature	T _{stg}		-30 to +125	°C
Available time for load short-circuit	t _s	V _{CC} = ±31.0V, R _L = 6Ω, f = 50Hz, P _O = 70W	1	s

Operating Characteristics at Ta = 25°C, R_L = 6Ω (noninductive load), R_g = 600Ω, V_G = 26dB

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I _{CCO}	V _{CC} = ±39.5V, no load	-	13	20	mA
Output power	P _O	V _{CC} = ±31.0V, f = 1kHz, THD = 10.0%	70	-	-	W
Total harmonic distortion	THD	V _{CC} = ±31.0V, f = 1kHz, P _O = 5.0W	-	0.04	0.1	%
Frequency response	f _L , f _H	V _{CC} = ±31.0V, P _O = 1.0W, ⁺⁰ / ₋₃ dB	-	20 to 50k	-	Hz
Input impedance	r _i	V _{CC} = ±31.0V, f = 1kHz, P _O = 1.0W	-	55	-	kΩ
Output noise voltage	V _{NO}	V _{CC} = ±39.5V, R _g = 10kΩ	-	-	1.2	mVrms
Neutral voltage	V _N	V _{CC} = ±39.5V	-100	0	+100	mV

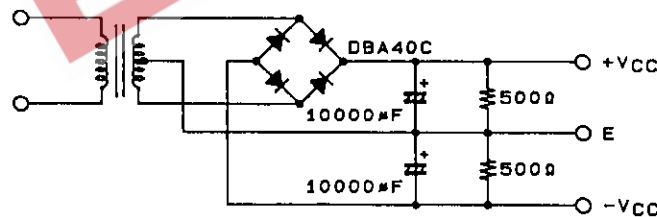
Notes.

All tests are measured using a regulated voltage supply unless otherwise specified.

Available time for load short-circuit and output noise voltage are measured using the transformer supply specified below.

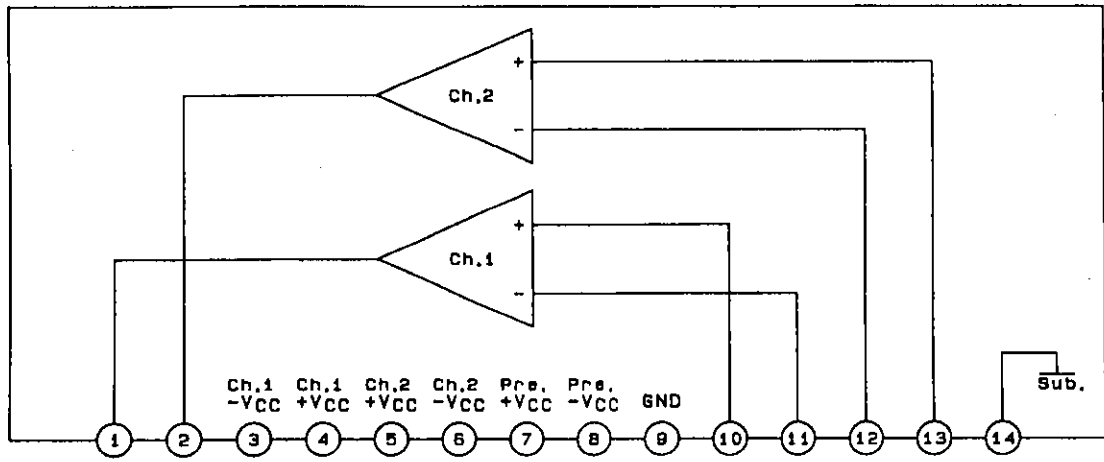
The output noise voltage is the peak value of an average-reading meter with an rms value scale (VTVM). A regulated AC supply (50Hz) should be used to eliminate the effects of AC primary line flicker noise.

Specified Transformer Supply (MG-200 or Equivalent)



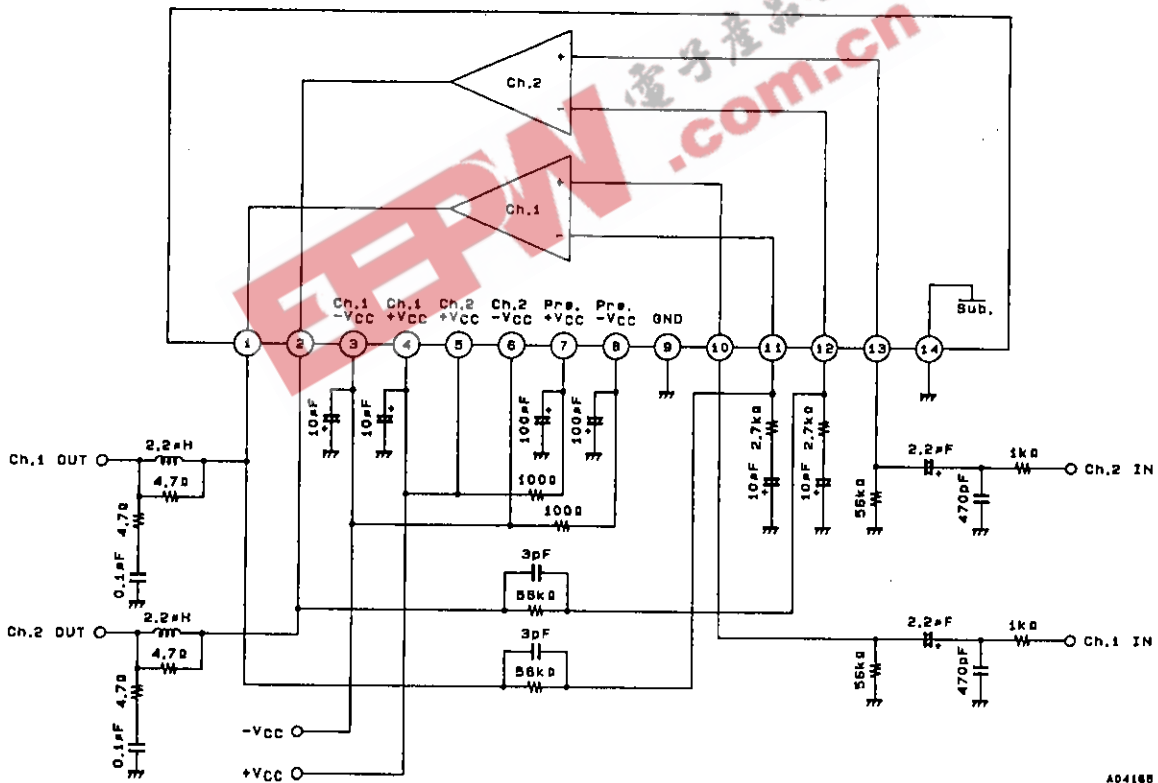
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Block Diagram



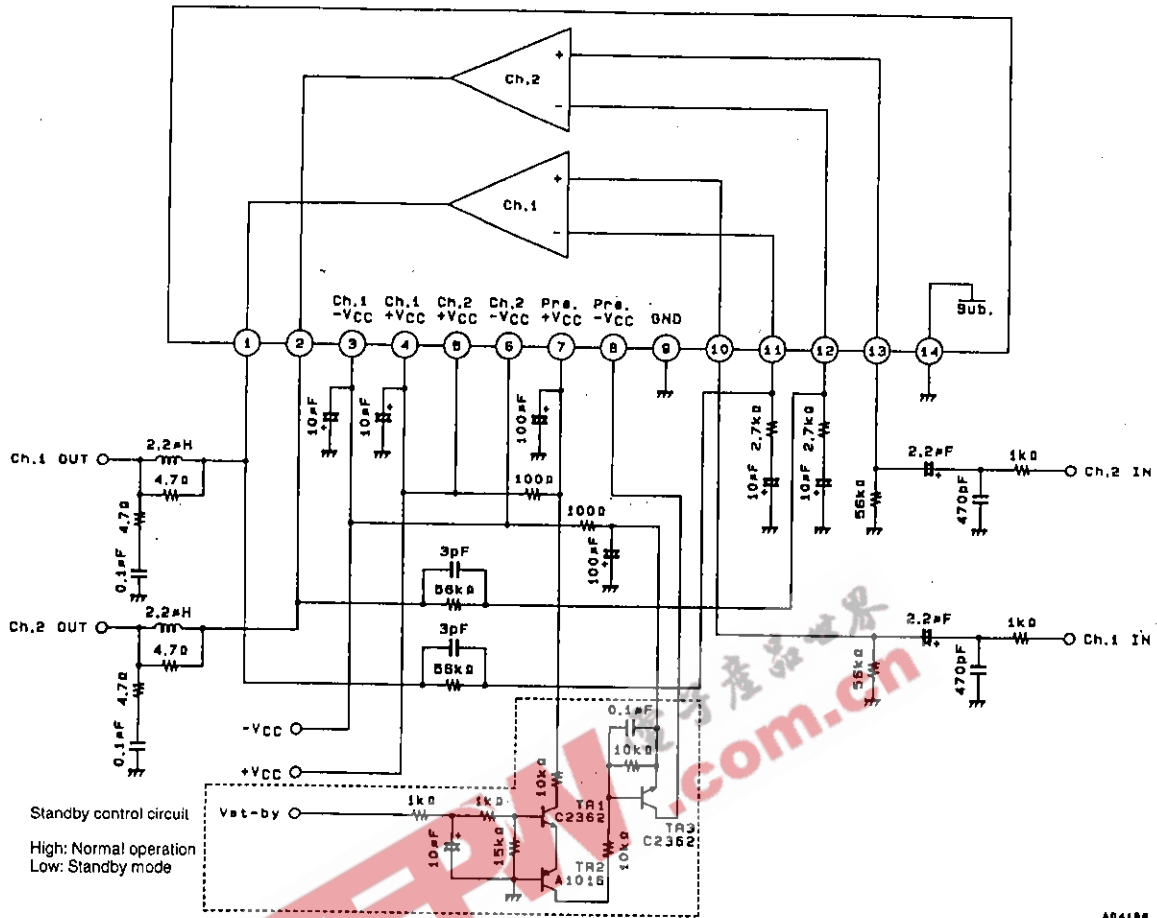
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Test Circuit



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Sample Application Circuit (Standby Mode Supported)



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