

SANYO**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 6Ω/3Ω output drive.

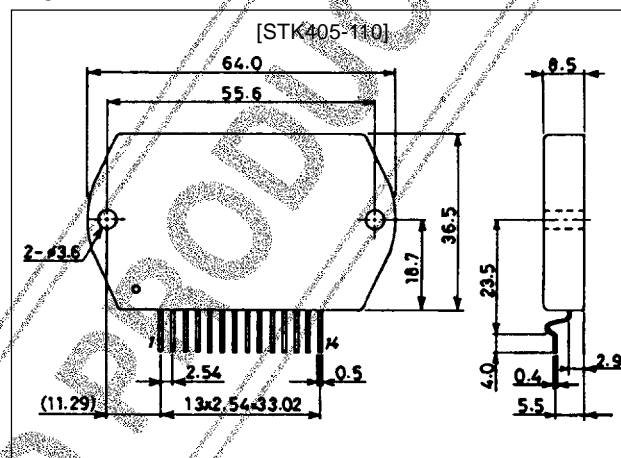
Features

- Class B amplifiers
- Output load impedance $R_L=6\Omega$ support
- EIAJ-output compatible ($f=1\text{kHz}$, $\text{THD}=10\%$)
- 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

Package Dimensions

unit:mm

4162

**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

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$		± 50.0	V
Thermal resistance	θ_{j-c}	Per power transistor	1.8	$^\circ\text{C/W}$
Junction temperature	T_j		150	$^\circ\text{C}$
Operating 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	$V_{CC}=\pm 31.0\text{V}$, $R_L=6\Omega$, $f=50\text{Hz}$, $P_O=70\text{W}$	1	s

Operating Characteristics at $T_a = 25^\circ\text{C}$, $R_L=6\Omega$ (noninductive load), $R_g=600\Omega$, $V_G=26\text{dB}$

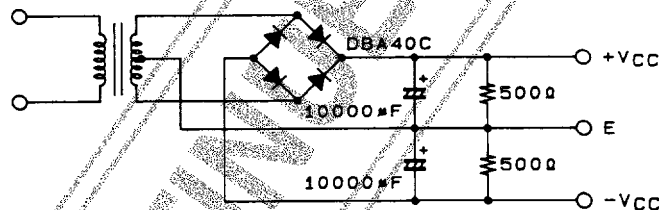
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$V_{CC}=\pm 39.5\text{V}$, no load		13	20	mA
Output power	P_O	$V_{CC}=\pm 31.0\text{V}$, $f=1\text{kHz}$, $\text{THD}=10.0\%$	70			W
Total harmonic distortion	THD	$V_{CC}=\pm 31.0\text{V}$, $f=1\text{kHz}$, $P_O=5.0\text{W}$		0.04	0.1	%
Frequency response	f_L, f_H	$V_{CC}=\pm 31.0\text{V}$, $P_O=1.0\text{W}$, $+0$ -3 dB		20 to 50k		Hz
Input impedance	r_i	$V_{CC}=\pm 31.0\text{V}$, $f=1\text{kHz}$, $P_O=1.0\text{W}$		55		$k\Omega$
Output noise voltage	V_{NO}	$V_{CC}=\pm 39.5$, $R_g=10k\Omega$			1.2	mVrms
Neutral voltage	V_N	$V_{CC}=\pm 39.5\text{V}$	-100	0	+100	mV

Note.

All tests are measured using a constant-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.

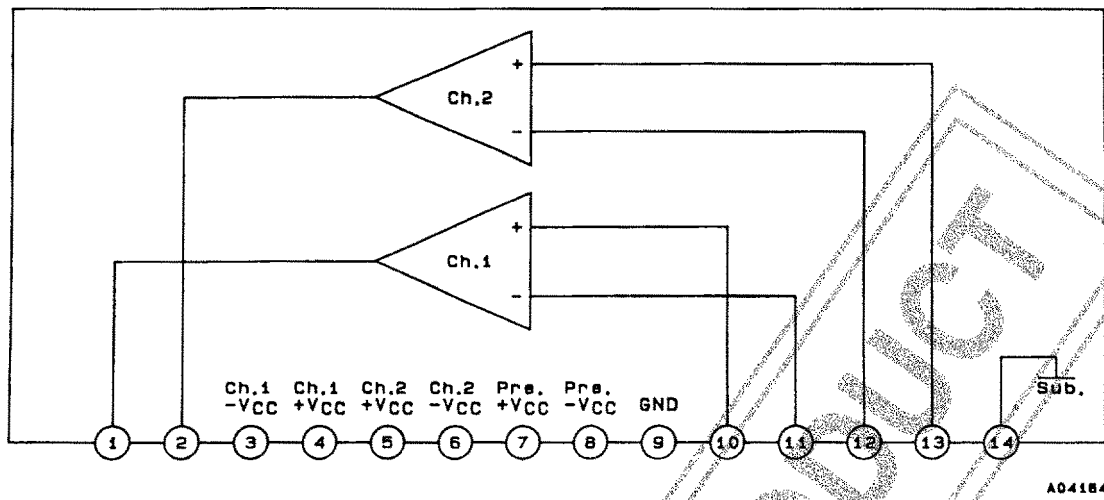
Specified Transformer Supply (MG-200 or Equivalent)



A04187

STK405-110

Block Diagram



Test Circuit

