No.1155A

STK430III

Thick Film Hybrid Integrated Circuit

22W min Dual-Channel AF Power Amp.

The STK430III, a power-increased version of the STK430II, is a single-package hybrid IC of our own original IMST structure. It is a dual-channel, high-efficiency amp. that has little voltage loss and is designed to operate from three supplies. Application areas include outdoor stereos, radio cassettes, and the like.

Applications

- Radio cassette
- Car stereo for diesel-engine car
- Outdoor stereo (3-supply operation)
- Color TV (with sound multiplex system)
- Electronic musical instrument

Features

- Wide supply voltage range
- Supply voltage range V_{CC}=8 to 31V.
  Operable from battery (13.2V), AC line (31.0V)
- High V_{CC}max. enabling easy designing of transformer (V_{CC}max.=50V)
- New circuit configuration permitting high power output
  V_{CC} 13.2V : 5.5W typ. x 2 (THD=10%)
  31.0V : 25W typ. x 2 (THD=10%)
  31.0V : 20W typ. x 2 (THD=1%)
- Free from failure caused by load shorted because heat sink is provided
- Usable for 2ohm load (at V_{CC}=22V or less)
- Easy to use in LM-band AM sets because electromagnetic interference in radio band is small

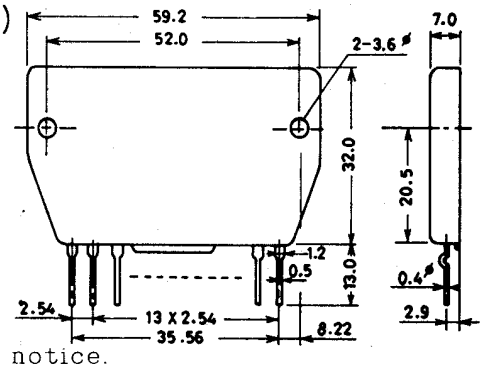
Maximum Ratings at T_a=25°C

				unit
Maximum Supply Voltage	V_{CC}max		50	V
Operating Case Temperature	T_C		-20 to +105	°C
Storage Temperature	Tstg		-20 to +125	°C
Available Time for Load Shorted	t_s	V_{CC}=31V, *R_L=4ohm, f=1kHz, P_O=22W, VG=40dB	2	sec

Recommended Operating Conditions at T_a=25°C

			unit
Recommended Supply Voltage	V_{CC}	31	V
Load Resistance	R_L	4	ohm

Case Outline 4031
(unit:mm)



These specifications are subject to change without notice.

TOKYO SANYO ELECTRIC CO., LTD. SEMICONDUCTOR DIVISION
15-13, 6-CHOME, SOTOKANDA, CHIYODA-KU, TOKYO 101 JAPAN

Operating Characteristics at T_a=25°C, V_{CC}=31V, R_L=4ohm, Rg=600ohm, VG=40dB

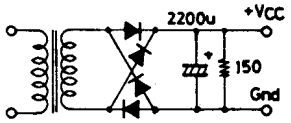
			min	typ	max	unit
Quiescent Current	I_{CCO}	V_{CC}=36V		60	120	mA
Output Power	$P_O(1)$	V_{CC}=13.2V, THD=10%, f=1kHz	5.0	5.5		W
	$P_O(2)$	THD=10%, f=1kHz	22	25		W
	$P_O(3)$	THD=1.0%, f=70Hz to 15kHz		20		W
Total Harmonic Distortion	THD(1)	V_{CC}=9V, P_O=1.0W, f=1kHz		0.5	0.8	%
	THD(2)	P_O=1.0W, f=1kHz		0.07		%
Frequency Characteristic	f_L, f_H	V_{CC}=26.4V, P_O=1.0W, $^{+0dB}_{-3dB}$	40 to 50k			Hz
Input Resistance	r_i	V_{CC}=26.4V, P_O=1.0W		21k		ohm
Output Noise Voltage	V_{NO}	V_{CC}=36V			0.8	mV_{rms}

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

. * : For measurement of available time for load shorted and output noise voltage, use the specified transformer power supply shown right.

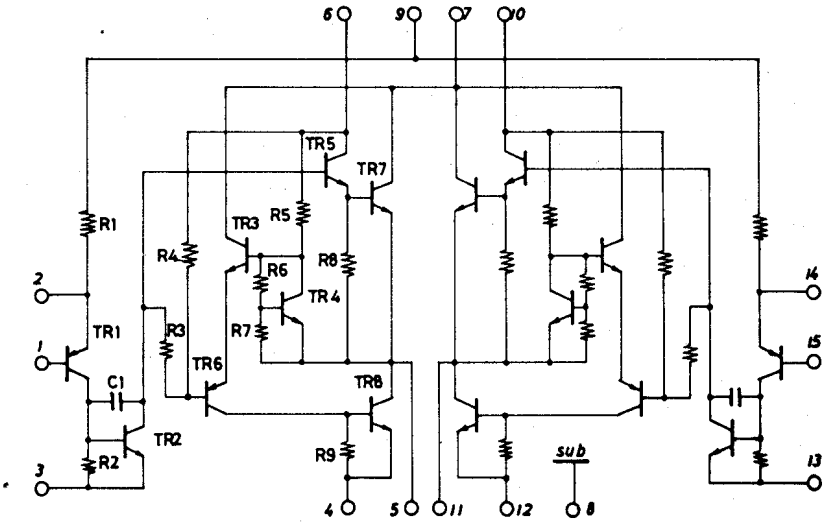
. Output noise voltage is the peak value on rms scale (VTVM) of average value indicating type. For AC power supply, use an AC stabilized power supply (50Hz) to eliminate the effect of flicker noise in AC primary line.

. For using R_L=2ohm, supply voltage at rated output must not exceed 22V.



Specified transformer power supply
(equivalent to Sansui RP-22)

Equivalent Circuit



Test Circuit