



No.1116

STK430 II

Thick Film Hybrid Integrated Circuit
2 CHANNEL 18W MIN AF POWER AMPLIFIER

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 $V_{CC}=8V$ to $26.4V$, operable from battery ($13.2V$), AC line ($26.4V$)
- High $V_{CCmax.}$ enabling easy designing of transformer ($V_{CCmax.}=43V$)
- New circuit configuration permitting high power output
 - $V_{CC} \ 13.2V$: $5.5W$ typ. x 2 (THD=10%)
 - $26.4V$: $21W$ typ. x 2 (THD=10%)
 - $26.4V$: $15W$ typ. x 2 (THD=10%) (THD=1%, FTC=50Hz to 15KHz)
- Free from failure caused by load shorted because heat sink is provided
- Usable for 2-ohm 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 $T_a=25^{\circ}C$

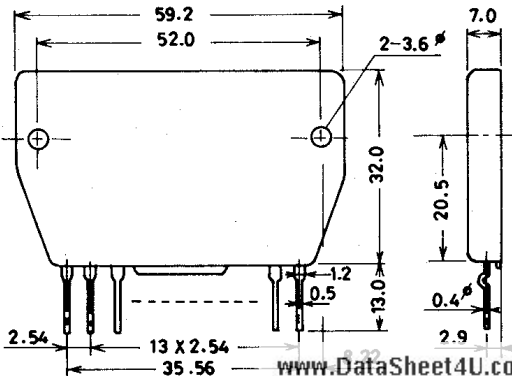
		unit
Maximum Supply Voltage	V_{CCmax}	43 V
Operating Case Temperature	T_C	-20 to +105 $^{\circ}C$
Storage Temperature	T_{stg}	-20 to +125 $^{\circ}C$
Available Time for Load Shorted	t_s	$V_{CC}=26.4V, R_L=4ohm, f=1KHz$ 2 sec $P_O=18W, V_G=40dB$

Recommended Operating Conditions at $T_a=25^{\circ}C$

		unit
Recommended Supply Voltage	V_{CC}	26.4 V
Load Resistance	R_L	4 ohm

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Case Outline 4031 (unit:mm)

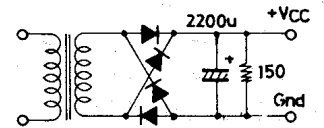


Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{CC}=26.4\text{V}$, $R_L=4\text{ohm}$, $R_g=600\text{ohm}$, $V_G=40\text{dB}$, at specified test circuit (based on Sample Application Circuit)

			min	typ	max	unit
Quiescent Current	I_{CCO}	$V_{CC}=30\text{V}$		60	120	mA
Output Power	$P_O(1)$	$V_{CC}=13.2\text{V}$, THD=10%, $f=1\text{KHz}$	5.0	5.5		W
	$P_O(2)$	THD=10%, $f=1\text{KHz}$	18	21		W
	$P_O(3)$	THD=1.0%, $f=70\text{Hz}$ to 15KHz		15		W
Total Harmonic Distortion	THD(1)	$V_{CC}=9\text{V}$, $P_O=1.0\text{W}$, $f=1\text{KHz}$		0.5	0.8	%
	THD(2)	$P_O=1.0\text{W}$, $f=1\text{KHz}$		0.07		%
Frequency Characteristics	f_L, f_H	$P_O=1.0\text{W}$, $+0\text{dB}$ to -3dB	40	50K		Hz
Input Resistance	r_i	$P_O=1.0\text{W}$		21		ohm
Output Noise Voltage	V_{NO}	$V_{CC}=30\text{V}$			0.8	mVrms

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

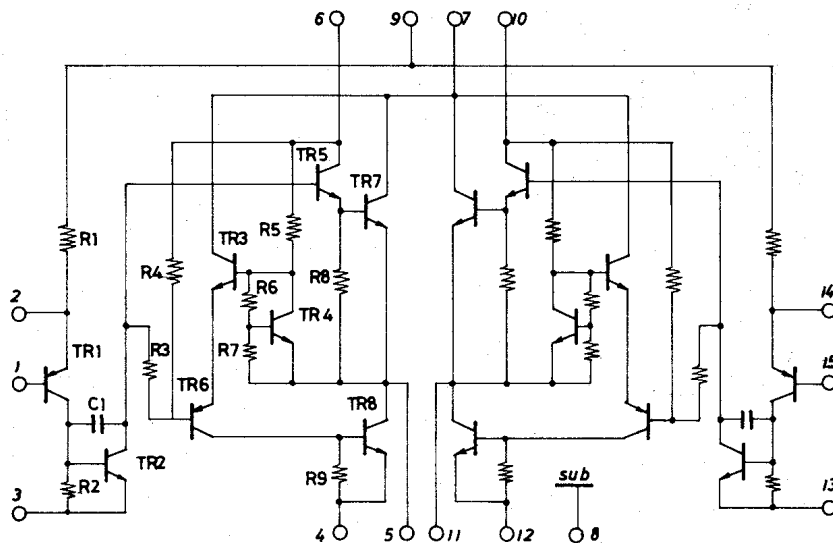
- *: For measurement of the available time for load shorted and output noise voltage, use the specified transformer power supply shown right.
- The output noise voltage is the peak value on rms scale (VTVM) of average value indicating type. For AC power supply, use an AC stabilized power supply (50Hz) to eliminate the effect of flicker noise in AC primary line.
- For using $R_L=2\text{ohm}$, the supply voltage at the rated output must not exceed 22V.



Specified transformer power supply

(equivalent to Sansui RP-22)

Equivalent Circuit



Test Circuit

