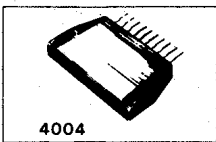


No. 765



**STK1040**

Thick Film Hybrid Integrated Circuit  
**OUTPUT STAGE OF 40W MIN AF POWER AMPLIFIER**

**Features**

- . No need for an external emitter resistance.
- . Design of the emitter resistance value has been studied in every respect, and excellent characteristics have been obtained.
  - a. Increased voltage utilization factor ; supply voltage may be less than that of the conventional DPP series by  $\pm 0.7V$  (at  $R_L=4\text{ohm}$ ).
  - b. Allowable power for the resistance is 5W or more ; every kind of load can be handled.
  - c. Allowable peak current is 18A or more ; can resist such peak currents of extraordinary load short-circuits.
  - d. Maximum output at 4ohm output is specially improved to a great degree.
- . PCB design is available with ease to meet regulations of a variety of safety codes, as an emitter resistance is built into the device.
- . No mutual interference at high frequencies due to layout of the external emitter resistance ; the lower distortion factor is available with ease in designing.
- . The idle pins of the conventional DPP can be used as the output terminal of the emitter resistance, while other terminals remain in position the same as in the case of the conventional design. A broad change in PCD, therefore, is not required.

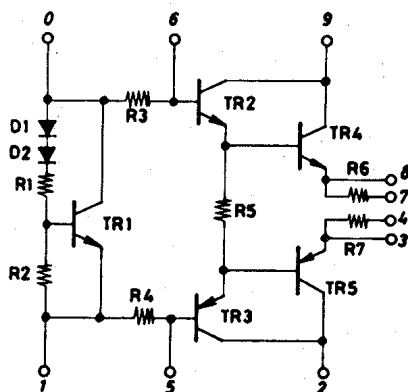
**Maximum Ratings at  $T_a=25^\circ\text{C}$**

		unit
Maximum Supply Voltage	$V_{CCmax}$	$\pm 48$ V
Thermal Coefficient	$\theta_{j-c}$	1.8 $^\circ\text{C/W}$
Collector Current	$I_C$	Ideal heat radiation 7 A
Junction Temperature	$T_j$	150 $^\circ\text{C}$
Storage Temperature	$T_{stg}$	-30 to +105 $^\circ\text{C}$
Allowable Load Shorting Time	$t_s$	$V_{CC}=\pm 33V^*, f=50\text{Hz}$ $R_L=8\text{ohm}, P_O=40W$ 2 sec

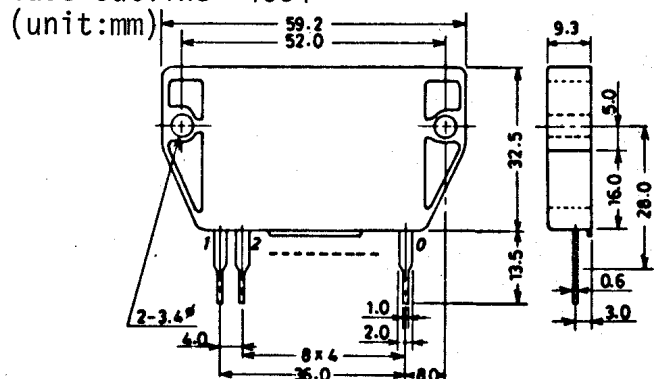
**Recommended Operation Condition at  $T_a=25^\circ\text{C}$**

		unit
Recommended Supply Voltage	$V_{CC}$	+33 V
Load Resistance	$R_L$	8 ohm

**Equivalent Circuit**



**Case Outline 4004**



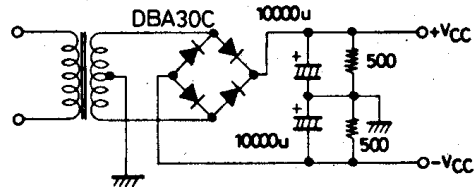
These specifications are subject to change without notice.

# STK-1040

Operation Characteristics at  $T_a=25^\circ\text{C}$ ,  $V_{CC}=\pm 33\text{V}$ ,  $R_L=8\text{ohm}$ ,  $R_g=600\text{ohm}$ ,  $V_G=26.3\text{dB}$ , at specified test circuit.

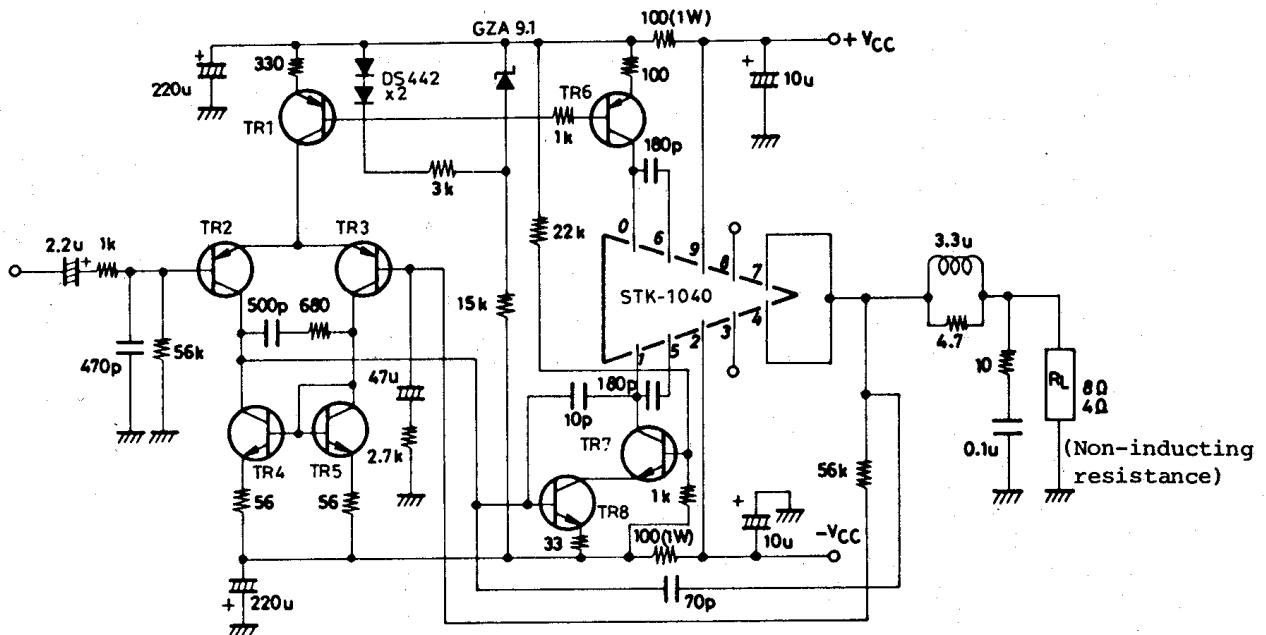
			min	typ	max	unit
Quiescent Current	$I_{CCO}$	$V_{CC}=\pm 39\text{V}$	20	40	80	mA
Output Power	$P_O(1)$	THD=0.02%, $f=20$ to $20\text{kHz}$	40			W
	$P_O(2)$	$V_{CC}=\pm 28.5\text{V}$ , THD=0.03%, $f=1\text{kHz}$ , $R_L=4\text{ohm}$	45			W
Total Harmonic Distortion	THD	$P_O=1$ to $40\text{W}$ , $f=20$ to $20\text{kHz}$			0.02	%
Emitter Resistance	$R_E$		0.18	0.22	0.3	ohm

\* : Use the specified transformer power supply shown right.



Specified transformer power supply (equivalent to SANSUI RP-25)

## Application Circuit : 40W min. AF Power Amplifier



TR1,6 : Equivalent to 2SA984/TR2,3 : equivalent to 2SA608/TR4,5 : equivalent to 2SC2274/TR7 : equivalent to 2SC1570/TR8 : equivalent to 2SC1175

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