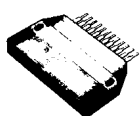




No.1094

STK1080 II



Thick Film Hybrid Integrated Circuit  
80W MIN AF POWER AMP. OUTPUT STAGE (D.P.P.)  
WITH BUILT-IN EMITTER RESISTANCE

## Features

- . Built-in emitter resistance.
- . Allowable power rating of resistor is 5W min. which is capable of meeting the requirements for any load.
- . Allowable peak current is 15A min. which is capable of covering any peak current at abnormal mode such as load short.
- . Meets the requirements of various safety standards in the world.
- . Easy to make PCB design because of built-in emitter resistance.
- . Capable of forming quasi class A bias circuit by connecting peripheral circuit externally.

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

|                                 |                                                                                |             | unit               |
|---------------------------------|--------------------------------------------------------------------------------|-------------|--------------------|
| Maximum Supply Voltage          | $V_{CCmax}$                                                                    | $\pm 65$    | W                  |
| Thermal Resistance              | $\theta_{j-c}$ Ideal heat radiation                                            | 1.2         | $^\circ\text{C/W}$ |
| Collector Current               | $I_C$                                                                          | 10          | A                  |
| Junction Temperature            | $T_j$                                                                          | 150         | $^\circ\text{C}$   |
| Storage Temperature             | $T_{stg}$                                                                      | -30 to +105 | $^\circ\text{C}$   |
| Available Time for Load Shorted | $t_s$ $V_{CC}=\pm 45\text{V}, *f=50\text{Hz}, R_L=8\text{ohm}, P_O=80\text{W}$ | 1           | sec                |

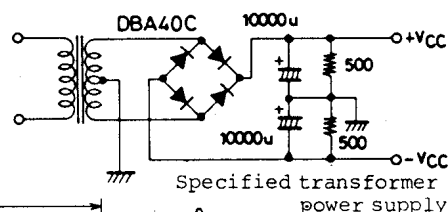
## Recommended Operating Conditions at $T_a=25^\circ\text{C}$

|                            |          |          | unit |
|----------------------------|----------|----------|------|
| Recommended Supply Voltage | $V_{CC}$ | $\pm 45$ | V    |
| Load Resistance            | $R_L$    | 8        | ohm  |

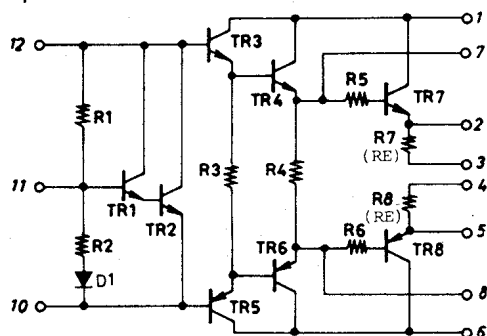
## Operating Characteristics at $T_a=25^\circ\text{C}, V_{CC}=\pm 45\text{V}, R_L=8\text{ohm}, R_g=600\text{ohm}, V_G=36.7\text{dB}$ , at specified test circuit(based on sample application circuit)

|                           |                                                                |  | min   | typ  | max  | unit |
|---------------------------|----------------------------------------------------------------|--|-------|------|------|------|
| Quiescent Current         | $I_{CCO}$ $V_{CC}=\pm 55\text{V}$                              |  | 20    | 40   | 70   | mA   |
| Output Power              | $P_O$ $\text{THD}=0.01\%, f=20\text{Hz to } 20\text{kHz}$      |  | 80    |      |      | W    |
| Total Harmonic Distortion | $\text{THD}(1) P_O=80\text{W}, f=20\text{Hz to } 20\text{kHz}$ |  | 0.005 | 0.01 |      | %    |
|                           | $\text{THD}(2) P_O=1\text{W}, f=20\text{Hz to } 20\text{kHz}$  |  |       | 0.01 |      | %    |
| Power Bandwidth           | PBW $P_O=40\text{W}, f=50\text{kHz}$                           |  | 0.05  |      |      | %    |
| Emitter Resistance        | $R_E$                                                          |  | 0.18  | 0.22 | 0.30 | ohm  |

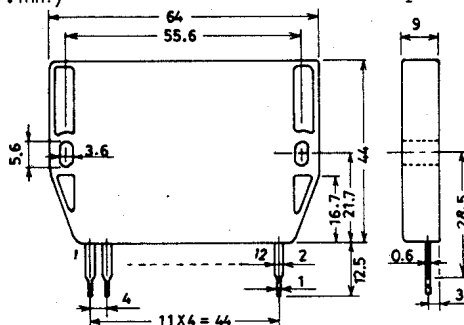
\* : For measuring available time for load shorted, use the specified transformer power supply shown right.



## Equivalent Circuit



## Case Outline 4020 (unit:mm)



These specifications are subject to change without notice.

STK1080 II

Sample Application Circuit : 80W min AF Power Amp.

