# D.P.P-II SERIES

thick film IC

DARLINGTON POWER PACK

## General Description

D.P.P.II series have improved the characteristics of D.P.P. series and are designed to meet requirement for high performance of audio components. The rate of total harmonic distortion are less than 0.02% at rated output 20KHz/4 ohm less than 0.05% at rated output 20KHz/4 ohm, and typically 0.004% at 1/3 rated output 1KHz/4 ohm.

## Features

General output stage of power amplifier has a difficult and complex problem about heat sink designing and its setting. Sanyo's D.P.P. intends to decrease electronic parts and rationalize a manufacturing process by designing IC of only output stage of power amplifier.

- IMST system.
- Output stage for AF high power amplifier.
- Dual power supply
- Darlington type pure-complementary circuit.
- These same pin assignment and pin interval lead to standardize a printed board.
- Metal substrate use IMST$^C$ makes good thermal stability.
- Able to design freely previous section of power amplifier. This leads tone control designing.

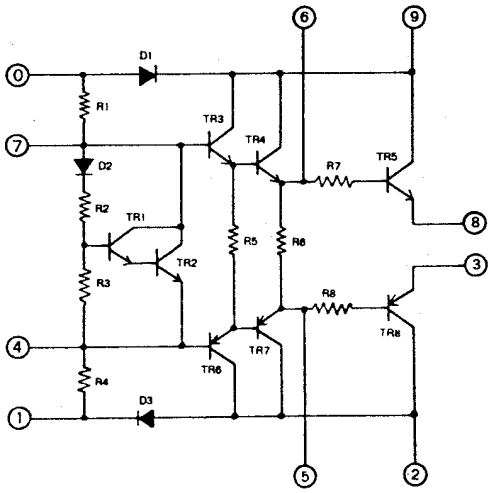
## ABSOLUTE MAXIMUM RATINGS at Ta = 25°C

| | STK | 0040-II | 0050-II | 0060-II | 0070-II | 0080-II | 0100-II | Unit |
|---|---|---|---|---|---|---|---|---|
| Maximum Supply Voltage | $V_{CC}$ max | ±48 | ±53 | ±55 | ±60 | ±65 | ±75 | V |
| Operating Case Temperature | $T_C$ max | | | 105 | | | | °C |
| Storage Temperature | $T_{stg}$ | | | −30 to +105 | | | | °C |
| Allowable Load Shorting Time | $t_s$ | | | 1 | | | | sec |
| Junction Temperature | $T_j$ | | | 150 | | | | °C |
| Thermal Resistance | $\theta_{J-C}$ | 1.8 | 1.6 | 1.3 | 1.3 | 1.2 | 1.0 | °C/W |
| Collector Current | $I_c$ max | 5 | 6 | 8 | 10 | 12 | 15 | A |

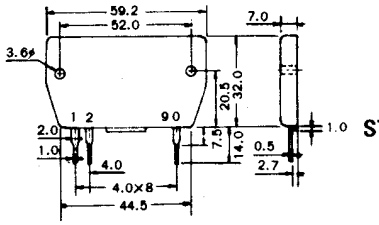
## ELECTRICAL CHARACTERSTICS at Ta = 25°C

| | STK | 0040-II | 0050-II | 0060-II | 0070-II | 0080-II | 0100-II | Unit |
|---|---|---|---|---|---|---|---|---|
| Recommended Supply Voltage ($R_L$-4 ohm) | $V_{CC}$ | ±32 | ±35 | ±37 | ±40 | ±42 | ±45 | V |
| Quiescent Current | Icco (typ) | | | 10 | | | | mA |
| | Icco (max) | | | 80 | | | | mA |
| Output Power (f=20Hz to 20kHz) | Po($R_L$=4ohm) | 45 | 55 | 70 | 80 | 100 | 120 | W |
| Total Harmonic Distortion | THD | | | 0.02 | | | | % |
| Voltage Gain | | | | 34 | | | | dB |

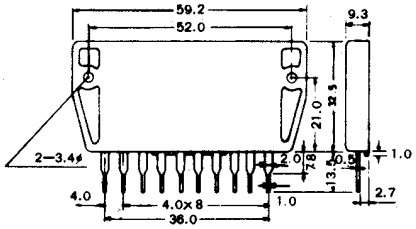
## EQUIVALENT CIRCUIT



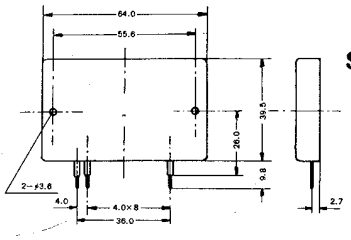

## PACKAGE DIMENSION (Unit: mm)



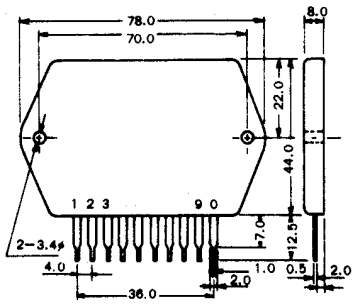

STK-0040-II




STK-0050-II




STK-0060-II
0070-II
0080-II




STK-0100-II

## HEAT SINK THERMAL RESISTANCE ON THE MEASURING EQUIPMENT

| Type No. | 0040-II | 0050-II | 0060-II | 0070-II | 0080-II |
|---|---|---|---|---|---|
| Thermal Resistance ($\theta_{c\_A}$) | 2.2 | 1.8 | 1.6 | 1.3 | 1.1 |