



STK-1050

**50 W MIN. AF POWER AMPLIFIER OUTPUT STAGE (DPP)  
INTEGRATED EMITTER RESISTOR  
THICK FILM HYBRID INTEGRATED CIRCUIT**

**FEATURES**

- Does not require externally connected emitter resistors.
- Values of emitter resistors have carefully been reviewed to provide superior characteristics.
  - a. Better supply voltage utilization permits designing power supply voltages that are  $\pm 0.7$  V (for  $R_L = 4\Omega$ ) lower than those required for previous DPP models.
  - b. Maximum allowable power consumption for each resistor is 5 W or higher, permitting accommodation for all loads.
  - c. Peak allowable current is 18 A or more, providing an ample margin even for peak currents under when short circuited or similar emergencies.
  - d. In particular, maximum outputs  $4\Omega$  have been enormously improved.
- Use of emitter resistors facilitates meeting deferent safety standards and designing PCBs.
- Mutual interferences in the high-frequency range caused by layout of externally connected emitter resistors no longer exist. This facilitates lower distortion factors.
- Pins are used for emitter resistor output terminals that were not connected in previous DPPs. All other terminals remain unchanged; there is no need for major circuit board changes.

**MAXIMUM RATINGS/ $T_a = 25^\circ\text{C}$**

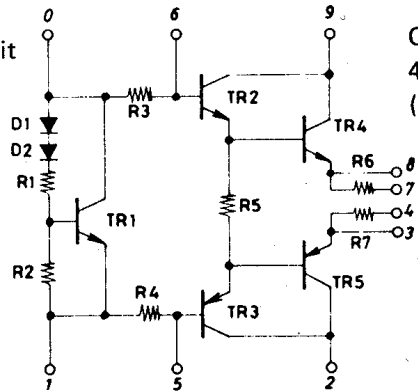
Maximum power supply voltage	$V_{CC}$ max	$\pm 53$	unit	V
Thermal resistance	$\theta_{j-c}$	Ideal dissipating condition	1.8	$^\circ\text{C}/\text{W}$
Collector current	$I_C$		7	A
Junction temperature	$T_j$		150	$^\circ\text{C}$
Storage ambient temperature	$T_{stg}$		$-30 \sim +105$	$^\circ\text{C}$
Short-circuit load allowable time	$t_s$	$V_{CC} = \pm 36$ V*, $f = 50$ Hz, $R_L = 8\Omega$ , $P_o = 50$ W	2	sec

\*Employ specified transformer power supply

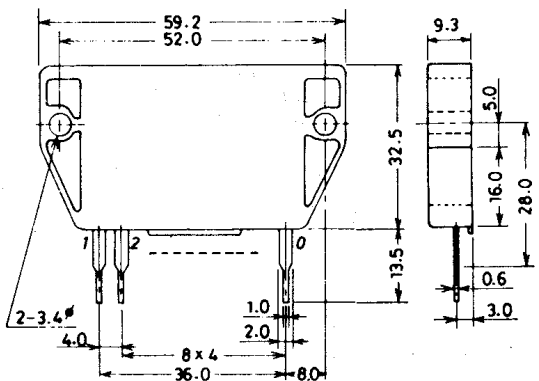
**RECOMMENDED OPERATING CONDITIONS/ $T_a = 25^\circ\text{C}$**

Recommended power supply voltage	$V_{CC}$	$\pm 36$	unit	V
Load resistance	$R_L$	8		$\Omega$

Equivalent circuit



Case Outline 4004 (unit: mm)

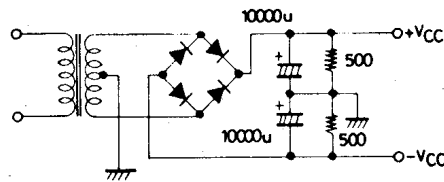


These specifications are subject to change without notice.

**OPERATING CHARACTERISTICS**/ $T_a = 25^\circ$ ,  $V_{CC} = \pm 36$  V,  $R_L = 8\Omega$ ,  $R_g = 600\Omega$ ,  $V_G = 26.3$  dB, at specified test circuit (conforming with sample application circuit)

			min	typ	max	unit
No signal current	$I_{CCO}$	$V_{CC} = \pm 43$ V	20	40	80	mA
			50			W
Output power	$P_O$ (1)	THD = 0.02%, $f = 20$ Hz ~ 20 kHz	50			W
	$P_O$ (2)	$V_{CC} = \pm 31$ V, THD = 0.03%, $f = 1$ kHz, $R_L = 4\Omega$	55			W
Total harmonic distortion	THD	$P_O = 1 \sim 50$ W, $f = 20$ Hz ~ 20 kHz			0.02	%
Emitter resistor	$R_E$		0.18	0.22	0.30	$\Omega$

\*To test for short-circuit allowable time, use a transformer power supply specified in diagram at the right.



Specified transformer power supply  
(Sansui RP-35 or equivalent)  
(Tango MG-200 or equivalent)

■ SAMPLE APPLICATION CIRCUIT: 50 W min. AF Power Amplifier

