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 ±0.7 V (for R_L = 4Ω) 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 4Ω 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.

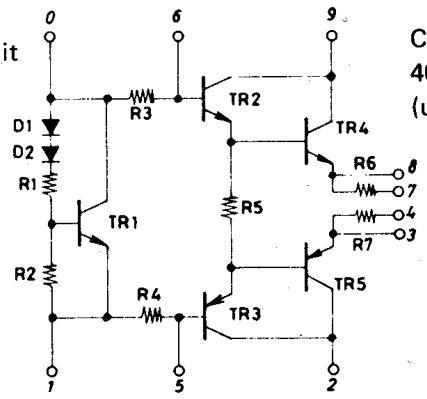
MAXIMUM RATINGS/T_a = 25°C

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

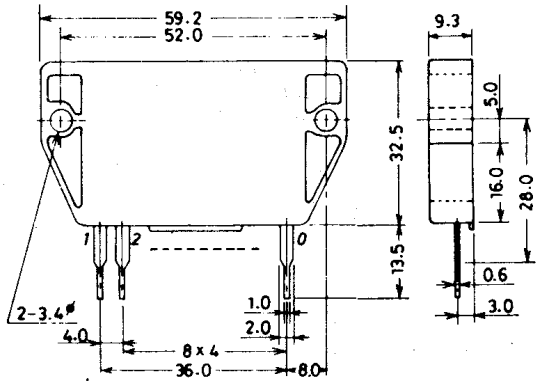
RECOMMENDED OPERATING CONDITIONS/T_a = 25°C

			unit
Recommended power supply voltage	V_{CC}	±36	V
Load resistance	R_L	8	Ω

Equivalent circuit



Case Outline 4004 (unit: mm)

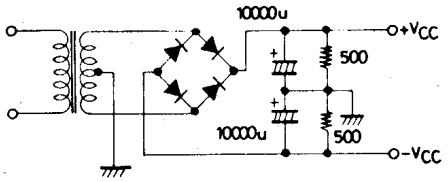


OPERATING CHARACTERISTICS/T_a = 25°, V_{CC} = ±36 V, R_L = 8Ω, R_g = 600Ω, VG = 26.3 dB, at specified test circuit (conforming with sample application circuit)

			min	typ	max	unit
No signal current	I_{CCO}	V_{CC} = ±43V	20	40	80	mA
			50			W

			min	typ	max	unit
Output power	P_O (1)	THD = 0.02%, f = 20 Hz ~ 20 kHz	50			W
	P_O (2)	V_{CC} = ±31 V, THD = 0.03%, f = 1 kHz, R_L = 4Ω	55			W
Total harmonic distortion	THD	P_O = 1 ~ 50 W, f = 20 Hz ~ 20 kHz			0.02	%
Emitter resistor	R_E		0.18	0.22	0.30	Ω

*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