BEAM-POWER AMPLIFIER TYPE 50HN5

The 50HN5 is a high perveance 9-Pin miniature beam power pentode designed for service as the output stage in low cost audio amplifiers. Its special feature is very high power sensitivity, resulting in low drive required for full power output.

ELECTRICAL

Cathode	Coated Unipotential	
Heater:		
Voltage (ac or dc)	50	Volts
Current	0.15	Ampere

MECHANICAL

Bulb	T-6½
Base	9-Pin Miniature (JEDEC E9-1)
Outline	6-4
Basing	9QW
Mounting Position	Any

MAXIMUM RATINGS

Design Maximum Values

Plate Voltage	330 max.	Volts
Grid 2 Voltage (Screen)	250 max.	Volts
Plate Dissipation	12 max.	Watts
Grid 2 Dissipation (Note 1)	2.5 max.	Watts
DC Cathode Current	120 max.	Ma.
Heater-Cathode Voltage:		
Heater Negative with Respect to Cathode		
Total DC + Peak	200 max.	Volts
Heater Positive with Respect to Cathode		
DC Component	100 max.	Volts
Total DC + Peak	200 max.	Volts

MAXIMUM CIRCUIT VALUES

Grid 1 Circuit Resistance		
For Fixed Bias	0.1 max.	Megohm
For Cathode Bias	0.3 max.	Megohm

CHARACTERISTICS

Plate Voltage	130	Volts
Grid 2 Voltage	130	Volts
Bypassed Cathode Bias Resistor	56	Ohms
Plate Current	70	Ma.
Grid 2 Current	5	Ma.
Plate Resistance (Approx.)	7500	Ohms
Transconductance	17000	μmhos
Triode Amplification Factor	13	–
Grid 1 Cutoff Bias (Note 2)	–33	Volts

TYPICAL CLASS A AMPLIFIER OPERATION

	Cathode Bias (Note 3)	Cathode Bias (Note 4)	Fixed Bias	
Plate Voltage	130	140	140	Volts
Grid 2 Voltage	130	140	140	Volts
Grid 1 Voltage	–	–	–5.7	Volts
RMS A.F. Grid 1 Voltage	3.3	7.3	4.0	Volts
Cathode Bias Resistor	56	68	–	Ohms
Zero Signal Plate Current	70	72	71	Ma.
Zero Signal Grid 2 Current	5	4	4	Ma.
Max. Signal Plate Current	68	67	68.5	Ma.
Max. Signal Grid 2 Current	15	13.5	14.5	Ma.
Load Resistance	2000	2000	1700	Ohms
Power Output	3.0	3.5	4	Watts
Total Harmonic Distortion	8	8	9	Per Cent

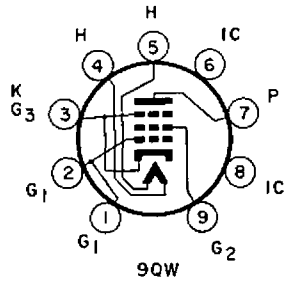
TYPICAL CLASS AB1 PUSH-PULL OPERATION

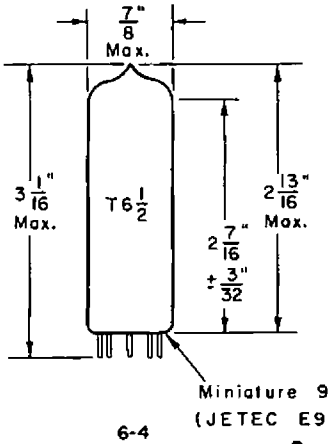
(Values are for 2 Tubes)

Plate Voltage	260	Volts
Grid 2 Voltage	130	Volts
Cathode Bias Resistor (Bypassed)	69	Ohms
Peak AF Grid 1-to-Grid 1 Voltage	16.5	Volts
Zero Signal Plate Current	90	Ma.
Zero Signal Grid 2 Current	3	Ma.
Max. Signal Plate Current	106	Ma.
Max. Signal Grid 2 Current	15	Ma.
Plate-to-Plate Load Resistance	5500	Ohms
Power Output	16.5	Watts
Total Harmonic Distortion	1.5	Per Cent

NOTES

1. Screen dissipation may be permitted to reach 4-watts during the periods of maximum input of speech and music signals.
2. For plate current of 100 microamperes.
3. Cathode resistor bypassed.
4. Cathode resistor not bypassed.





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