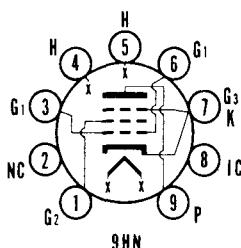


SYLVANIA TYPE 6CZ5 5CZ5

BEAM PENTODE AMPLIFIER



MECHANICAL DATA

Bulb.....	T-6½
Base.....	E9-1, Miniature Button, 9-Pin
Outline.....	6-4
Basing.....	9HN
Cathode.....	Coated Unipotential
Mounting Position.....	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

	5CZ5	6CZ5
Heater Voltage.....	4.7	6.3 Volts
Heater Current.....	600	450 Ma
Heater Warm-up Time ¹	11	11 Seconds
Heater-Cathode Voltage (Design Center Values)		
Heater Negative with Respect to Cathode		
Total D C and Peak.....		200 Volts Max.
Heater Positive with Respect to Cathode		
D C.....		100 Volts Max.
Total D C and Peak.....		200 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES

Grid No. 1 to Plate.....	0.4 μf Max.
Input: g1 to (k+h+g3+g2).....	6.0 μf
Output: p to (k+h+g3+g2).....	6.0 μf

MAXIMUM RATINGS (Design Center Values—Except as Noted)²

	Vertical Deflection Amp.	Class A ₁ Power Amp.
D C Plate Voltage.....	315	350 Volts
Peak Positive Plate Voltage (Abs. Max.)....	2200 ³	Volts
D C Grid No. 2 Voltage.....	285	285 Volts
Peak Negative Grid No. 1 Voltage.....	250	Volts
Plate Dissipation.....	10	12 Watts
Grid No. 2 Input.....	2	2 Watts
Average Cathode Current.....	40	Ma
Peak Cathode Current.....	140	Ma
Grid No. 1 Circuit Resistance		
Fixed Bias.....	0.5	0.1 Megohm
Cathode Bias.....	1	1 Megohm
Bulb Temperature (At Hottest Point).....	250	250 Degrees C

6CZ5, 5CZ5 (Cont'd)

CHARACTERISTICS

Plate Voltage.....	250 Volts
Grid No. 2 Voltage.....	250 Volts
Grid No. 1 Voltage.....	-14 Volts
Plate Current.....	46 Ma
Grid No. 2 Current.....	4.6 Ma
Transconductance.....	4800 μ mhos
Plate Resistance (approx.).....	73,000 Ohms
Grid No. 1 Voltage for $I_b = 100 \mu$ a (approx.).....	-35 Volts
Instantaneous Plate Knee Values	
$E_b = 70$ Volts, $E_{c2} = 250$ Volts, $E_{c1} = 0$ Volts	
$I_b = 130$ Ma, $I_{c2} = 16$ Ma	

TYPICAL OPERATION

AF Power Amplifier	Single Tube Class A ₁	Push Pull Class AB ₁
Plate Voltage.....	250	350 Volts
Grid No. 2 Voltage.....	250	280 Volts
Grid No. 1 Voltage.....	-14	-23.5 Volts
Peak AF Grid No. 1 Voltage.....	13	Volts
Peak AF Grid to Grid Voltage ^{4,5}		47 Volts
Zero Signal Plate Current.....	46	46 Ma
Maximum Signal Plate Current.....	48	103 Ma
Zero Signal Grid No. 2 Current.....	4.6	3 Ma
Maximum Signal Grid No. 2 Current.....	8	13 Ma
Transconductance.....	4800	μ mhos
Load Resistance.....	5000	Ohms
Load Resistance (Plate to Plate).....		7500 Ohms
Power Output.....	5.4	21.5 Watts
Total Harmonic Distortion.....	10	1 Percent

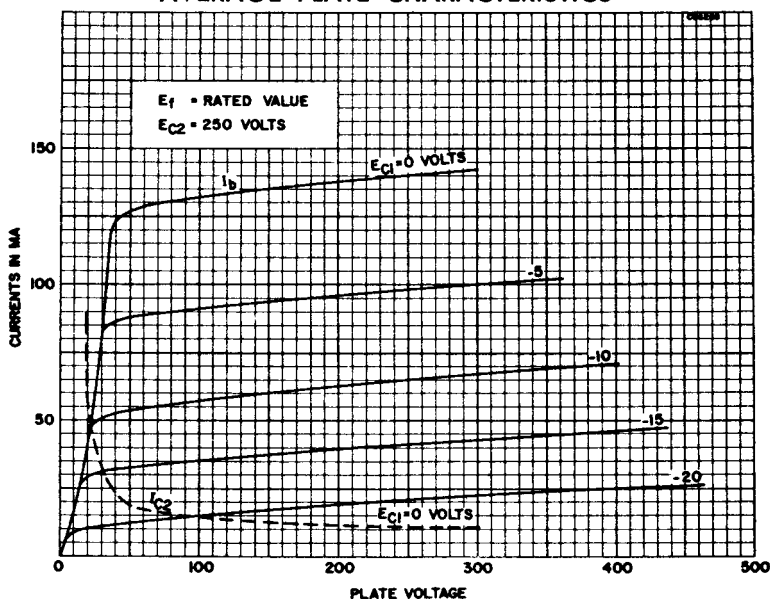
NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times rated heater voltage divided by rated heater current.
2. For operation in a 525-line, 30-frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the pulse must not exceed 15% of one scanning cycle.
3. Under no circumstances should this absolute value be exceeded.
4. No Grid No. 1 Current should flow during any part of the input cycle.
5. Low resistance is required by the Grid No. 1 circuit such as transformer or impedance coupling devices.

APPLICATION

The Sylvania Type 6CZ5 is a miniature, beam pentode intended primarily for use as a vertical deflection amplifier or audio amplifier. Types 6CZ5 and 5CZ5 have controlled heater warm-up time for series string operation.

AVERAGE PLATE CHARACTERISTICS



6CZ5, 5CZ5 (Cont'd)

AVERAGE TRANSFER CHARACTERISTICS

