

Peak Negative Grid No. 1 Voltage (Max.)	330 Volts
Plate Dissipation (Max.) ⁽²⁾	18 Watts
Grid No. 2 Input (Max.)	3.6 Watts
Average Cathode Current (Max.)	175 Ma
Peak Cathode Current (Max.)	610 Ma
Grid No. 1 Circuit Resistance (Max.)	1.0 Megohm
Bulb Temperature (At Hottest Point) (Max.)	220 °C

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250 Volts
Grid No. 2 Voltage	150 Volts
Grid No. 1 Voltage	-22.5 Volts
Plate Current	65 Ma
Grid No. 2 Current	1.8 Ma
Transconductance	7300 μ mhos
Amplification Factor ⁽¹⁾	4.4
Plate Resistance	18,000 Ohms
Ec1 for Ib = 1.0 Ma (Approx.)	-42 Volts

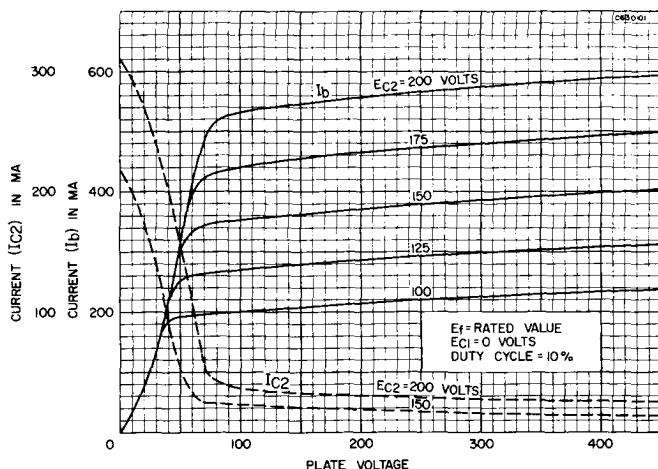
INSTANTANEOUS PLATE KNEE VALUES

Eb = 60 V, Ec2 = 150 V and Ec1 = 0 V

Ib = 345 Ma, and Ic2 = 27 Ma

NOTES:

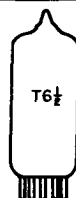
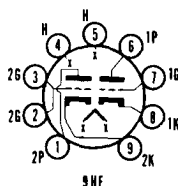
- (1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) In stages operating with grid leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- (3) Amplification factor with tube operating as a triode with 150 volts on the plate and Grid No. 2 and -22.5 volts on Grid No. 1.

AVERAGE PLATE CHARACTERISTICS**6DR7**

10DR7, 13DR7

**VERTICAL DEFLECTION
OSCILLATOR and AMPLIFIER****Double Dissimilar Triode**

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Biasing	.9HF
Outline	6-3
Maximum Diameter	0.875 In.
Maximum Seated Height	2.375 In.
Maximum Overall Height	2.625 In.



**ELECTRICAL DATA
HEATER OPERATION**

	13DR7	10DR7	6DR7
Heater Voltage.....	13	9.7	6.3 Volts
Heater Current	450	600	900 Ma
Heater Warm-up Time	11	11	— Seconds
Maximum Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
Total DC and Peak.....			200 Volts
Heater Positive with Respect to Cathode			
DC			100 Volts
Total DC and Peak.....			200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

	Section No. 1	Section No. 2
Grid to Plate	4.5	8.5 Pf
Input: g to (h + k)	2.2	5.5 Pf
Output: p to (h + k)	0.34	1.0 Pf

RATINGS (Design Maximum Rating System)**Vertical Deflection Oscillator and Amplifier⁽¹⁾**

	Section No. 1 Oscillator	Section No. 2 Amplifier
Plate Voltage (Max.)	330	275 Volts
Peak Positive Pulse Plate Voltage (Abs. Max.).....	—	1500 Volts
Peak Negative Pulse Grid Voltage (Max.)	400	250 Volts
Plate Dissipation (Max.) ⁽²⁾	1.0	7.0 Watts
Average Cathode Current (Max.).....	20	50 Ma
Peak Cathode Current (Max.)	70	175 Ma
Grid Circuit Resistance Self Bias	2.2	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section No. 1	Section No. 2
Plate Voltage	250	150 Volts
Grid No. 1 Voltage	-3	-17.5 Volts
Plate Current	1.4	35 Ma
Transconductance	1600	6500 μ mhos
Amplification Factor	68	6.0
Plate Resistance (Approx.)	40,000	925 Ohms
Ec for Ib = 10 μ a (Approx.)	-5.5	— Volts
Ec for Ib = 50 μ a (Approx.)	—	-44 Volts
Ib at Ec = -24 Vdc (Approx.)	—	10 Ma

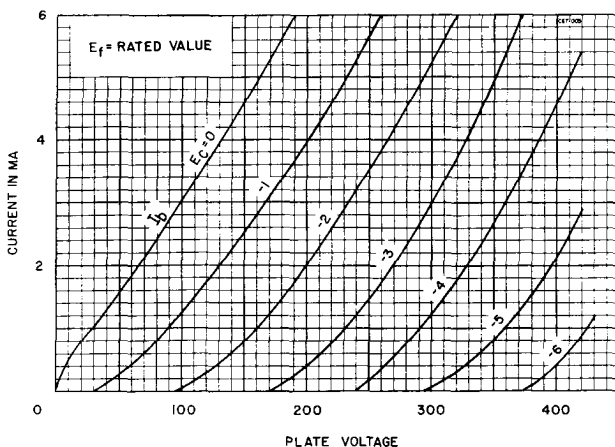
INSTANTANEOUS PLATE KNEE VALUES (Section No. 2)

Eb = 60 V; Ec = 0

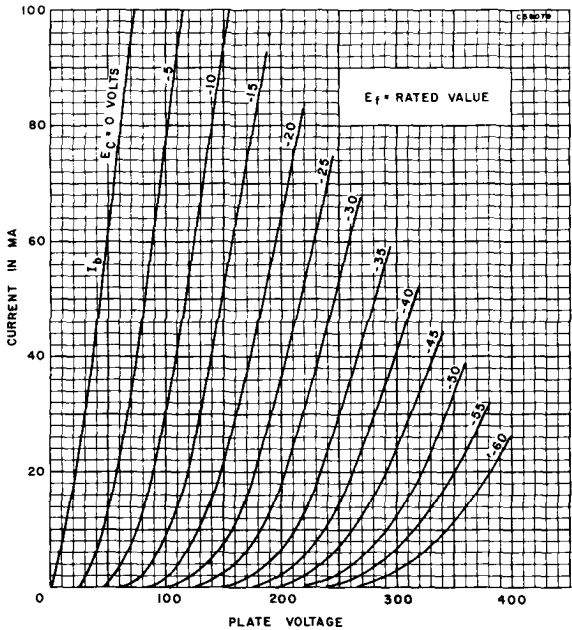
Ib = 80 Ma

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**AVERAGE PLATE CHARACTERISTICS
(Section No. 1)**

AVERAGE PLATE CHARACTERISTICS
(Section No. 2)



6DS4

2DS4

Color Television Type

VHF AMPLIFIER

High Mu Triode

- Construction Nuvisor, Metal
Base..Ceramic Wafer Twelvar 5 Pin, E5-65
Basing 12AQ
Outline
Maximum Diameter 0.440 In.
Maximum Seated Height 0.625 In.
Maximum Overall Height 0.800 In.



ELECTRICAL DATA
HEATER OPERATION

Heater Voltage.....	2DS4 2.1	6DS4 6.3 Volts
Heater Current	450	135 Ma
Heater Warm-up Time	8	— Seconds
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC and Peak.....		100 Volts
Heater Positive with Respect to Cathode		
Total DC and Peak.....		100 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid to Plate	0.92 Pf
Input: g to (h + Shell)	4.3 Pf
Output: p to (h + k + Shell)	1.8 Pf
Heater to Cathode	1.6 Pf
Plate to Cathode	0.18 Pf

RATINGS (Design Maximum Rating System)

Plate Supply Voltage (Max.)	300 Volts
Plate Voltage (Max.)	135 Volts