

Plate Dissipation (Max.) ⁽²⁾	1.5	10 Watts
Average Cathode Current (Max.)	22	50 Ma
Peak Cathode Current (Max.)	77	175 Ma
Grid Circuit Resistance (Self Bias)	2.2	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section No. 1 ⁽³⁾	Section No. 2
Plate Voltage	250	150 Volts
Grid No. 1 Voltage	-3	-20 Volts
Plate Current	1.4	50 Ma
Transconductance	1600	7200 μ mhos
Amplification Factor	68	5.4
Plate Resistance (Approx.)	40,000	750 Ohms
Ec for Ib = 10 μ a (Approx.)	-5.5	— Volts
Ec for Ib = 100 μ a (Approx.)	—	-45 Volts
Ib at Ec = -28 Vdc (Approx.)	—	10 Ma

INSTANTANEOUS PLATE KNEE VALUES (Section No. 2)

Eb = 60 V; Ec = 0

Ib = 95 Ma

NOTES:

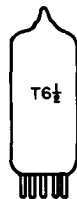
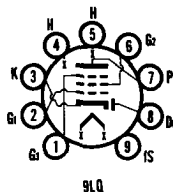
- (1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) In stages operating with grid-leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- (3) Section No. 1 connects to pins 4, 5, and 6.

6EQ7

12EQ7, 20EQ7

**DETECTOR (D)
IF AMPLIFIER (P)****Diode and Sharp Cutoff Pentode**

Construction	Miniature T-6 $\frac{1}{2}$
Base	Button 9 Pin, E9-1
Basing	9LQ
Outline	6-3
Maximum Diameter	0.875 In.
Maximum Seated Height	2.375 In.
Maximum Overall Height	2.625 In.

**ELECTRICAL DATA****HEATER OPERATION**

	20EQ7	12EQ7	6EQ7
Heater Voltage	20	12.6	6.3 Volts
Heater Current	100	150	300 Ma
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)**Pentode Section**

Grid No. 1 to Plate (Max.)	0.002 Pf
Input: g1 to (h + Pk, g3, IS + g2)	5.5 Pf
Output: p to (h + Pk, g3, IS + g2)	5.0 Pf

Coupling

Pentode Grid No. 1 to Diode Plate (Max.)	0.0015 Pf
Pentode Plate to Diode Plate (Max.)	0.095 Pf

RATINGS (Design Maximum Rating System)

Plate Voltage (Max.)	300 Volts
Grid No. 3 Voltage (Positive or Negative) (Max.)	300 Volts
Grid No. 2 Supply Voltage (Max.)	300 Volts
Grid No. 2 Voltage	See Rating Chart (Gen. Info. Sec.)
Positive Grid No. 1 Voltage (Max.)	0 Volt
Negative Grid No. 1 Voltage (Max.)	50 Volts
Plate Dissipation (Max.)	3.0 Watts
Grid No. 3 Input (Max.)	0.2 Watt
Grid No. 2 Input (Max.)	0.6 Watt
Diode Plate Current (Max.)	3.0 Ma

CHARACTERISTICS AND TYPICAL OPERATION
Pentode—Class A1 Amplifier

Plate Voltage	100 Volts
Grid No. 3 and Internal Shield	Tied to Cathode
Grid No. 2 Voltage	100 Volts
Grid No. 1 Voltage ⁽¹⁾	
Grid No. 1 Resistor	2.2 Megohms
Plate Current	9.0 Ma
Grid No. 2 Current	3.5 Ma
Transconductance	3800 μ mhos
Plate Resistance (Approx.)	250,000 Ohms
Ec1 for gm = 40 μ mhos (Approx.)	-20 Volts
Average Diode Current with 10 Volts DC Applied (Test Condition ONLY)	2.0 Ma

NOTE:

(1) Average contact potential bias developed across specified grid resistor.

Color Television Type

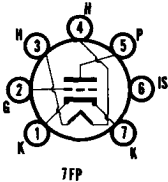
VHF AMPLIFIER

6ER5

2ER5, 3ER5

Semi-Remote Cutoff Triode

Construction	Miniature T-5½
Base	Button 7 Pin, E7-1
Basing	7FP
Outline	5-2
Maximum Diameter	0.750 In.
Maximum Seated Height	1.875 In.
Maximum Overall Height	2.125 In.



ELECTRICAL DATA
HEATER OPERATION

	2ER5	3ER5	6ER5
Heater Voltage.....	2.3	2.8	6.3 Volts
Heater Current	600	450	180 Ma
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

	Shielded	Unshielded
Grid to Plate	0.36	0.38 Pf
Input	4.4	4.4 Pf
Output	4.0	3.0 Pf
Heater to Cathode	2.8	2.8 Pf
Grid to Cathode.....	3.1	3.1 Pf
Plate to Cathode	0.2	0.24 Pf
Grid to Heater (Max.)	0.28	0.28 Pf

RATINGS (Design Center Rating System)

Supply Voltage (Max.)	550 Volts
Plate Voltage (Max.)	250 Volts
Plate Dissipation (Max.)	2.2 Watts
Cathode Current (Max.).....	20 Ma
Negative Grid Voltage (Max.)	50 Volts
Grid Circuit Resistance Cathode Bias (Max.)	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	200 Volts
Grid Voltage	-1.2 Volts
Plate Current	10 Ma
Transconductance	10,500 μ mhos
Amplification Factor	80
Plate Resistance.....	8000 Ohms
Ec1 for Gm = 500 μ mhos	-3.8 Volts
Ec1 for Gm = 100 μ mhos	-5.6 Volts