TUNG-SOL

DETECTOR, AMPLIFIER, OSCILLATOR
ACORN TYPE

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.15 AMPERE
AC OR DC

RATINGS
RF OR AF AMPLIFIER CLASS A

MAXIMUM PLATE VOLTAGE 250 VOLTS
MAXIMUM PLATE DISSIPATION 1.6 WATTS

DIRECT INTERELECTRODE CAPACITANCES
GRID TO PLATE 1.4 μF
GRID TO CATHODE 1.0 μF
PLATE TO CATHODE 0.6 μF

TYPICAL OPERATION AND CHARACTERISTICS
CLASS A1 AMPLIFIER

HEATER VOLTAGE 6.3 6.3 6.3 6.3 VOLTS
PLATE VOLTAGE 90 135 180 250 VOLTS
GRID VOLTAGE A -2.5 -3.75 -5 -7 VOLTS
AMPLIFICATION FACTOR 25 25 25 25
PLATE RESISTANCE 14700 13200 12500 11400 OHMS
TRANSCONDUCTANCE 1700 1900 2000 2200 μMhos
PLATE CURRENT 2.5 3.5 4.5 6.3 MA
LOAD RESISTANCE -- 20000 -- OHMS
U.P.O.D. (5% SECOND HARM.) -- -- 135 -- MW

TYPICAL CONDITIONS FOR RESISTANCE COUPLED A-F VOLTAGE AMPLIFIER

HEATER VOLTAGE 6.3 VOLTS
PLATE-SUPPLY VOLTAGE 180 VOLTS
GRID VOLTAGE A -3.5 VOLTS
LOAD RESISTANCE 250000 OHMS
PLATE CURRENT 0.42 MA
VOLTAGE OUTPUT (5% SECOND HARM.) 45 (RMS) VOLTS
VOLTAGE AMPLIFICATION (APPROX.) 20

R-F POWER AMPLIFIER & OSCILLATOR - CLASS C
PLATE MODULATED OR C.W.

MAXIMUM PLATE VOLTAGE 180 VOLTS
MAXIMUM PLATE CURRENT 8 MA
MAXIMUM GRID CURRENT 2 MA

TYPICAL OPERATION

HEATER VOLTAGE 6.3 VOLTS
PLATE VOLTAGE 180 VOLTS
GRID VOLTAGE (APPROX.) -55 VOLTS
PLATE CURRENT 7 MA
GRID CURRENT (APPROX.) 1.5 MA
POWER OUTPUT (APPROX.) 0.5 WATT

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TUNG-SOL

DETECTOR

TYPICAL OPERATION

BIASED GRID LEAK
HEATER VOLTAGE
PLATE-SUPPLY VOLTS
GRID VOLTAGE (APPROX.)
LOAD RESISTANCE
PLATE CURRENT
SELF-BIAS RESISTOR (APPROX.)
GRID LEAK
GRID CONDENSER

6.3 6.3 VOLTS
180 45 VOLTS
-7 GRID RETURN VOLTS
0.25 MEGOHMS
ADJUSTED TO 0.2 MA. APPROX.
WITH NO INPUT SIGNAL
70000 OHMS
1 TO 5 MEGOHMS
0.00025 μF

A THE D-C RESISTANCE IN THE GRID CIRCUIT SHOULD NOT EXCEED 1.0 MEGOHMS.

B IN CIRCUITS WHERE THE CATHODE IS NOT DIRECTLY CONNECTED TO THE HEATER, THE POTENTIAL DIFFERENCE BETWEEN HEATER AND CATHODE SHOULD BE KEPT AS LOW AS POSSIBLE. IF THE USE OF A LARGE RESISTOR BETWEEN HEATER AND CATHODE IS NECESSARY BECAUSE OF CIRCUIT CONSIDERATIONS, IT IS ESSENTIAL THAT THIS RESISTOR BE BY-PASSED BY A SUITABLE FILTER NETWORK OR OBJECTIONABLE HUM MAY DEVELOP.

C THIS IS A PLATE-SUPPLY VOLTAGE VALUE. THE VOLTAGE EFFECTIVE AT THE PLATE WILL BE THE PLATE-SUPPLY VOLTAGE MINUS THE VOLTAGE DROP (IN THE LOAD RESISTOR) CAUSED BY THE PLATE CURRENT.

D AT 5 METERS. ONLY MODERATE REDUCTION IN THIS VALUE WILL BE FOUND FOR WAVELENGTHS AS LOW AS 1 METER. BELOW 1 METER, THE POWER OUTPUT DECREASES AS THE WAVELENGTH IS DECREASED.

E SHOULD NOT DEVIATE MORE THAN ±10% FROM RATED VALUE.

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PIN CONNECTIONS

ALL LINEAR DIMENSIONS ARE SPECIFIED IN INCHES

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