Electronic TUBES

6AF4—2AF4

TRIODE

FOR UHF OSCILLATOR APPLICATIONS

DESCRIPTION AND RATING

The 6AF4 is a miniature medium-mu triode designed for use as a UHF oscillator in television receivers. Features of the tube include low interelectrode capacitances, low internal lead inductances, and short transit time.

Except for heater ratings, the 2AF4 is essentially equivalent to the 6AF4. In addition, the 2AF4 incorporates a controlled heater warm-up characteristic which makes it especially suited for use in television receivers that employ 600-milliampere, series-connected heaters.

GENERAL

ELECTRICAL	2AF4	6AF4
Cathode—Coated Unipotential		
Heater Voltage, AC or DC	2.35	6.3 ± 10% Volts
Heater Current	0.6 ± 6%	0.225 Amperes
Heater Warm-up Time*	11	.... Seconds
Direct Interelectrode Capacitances†		
Grid to Plate		1.9 μμf
Input		2.2 μμf
Output		1.4 μμf
Heater to Cathode‡		2.2 μμf

MECHANICAL

Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

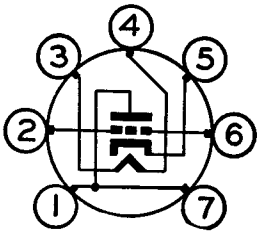
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage	150 Volts
Negative DC Grid Voltage	50 Volts
Plate Dissipation	2.5 Watts
DC Grid Current	2.0 Milliamperes
DC Cathode Current	22 Milliamperes
Heater-Cathode Voltage	
Heater Positive with Respect to Cathode	
DC Component	25 Volts
Total DC and Peak	50 Volts
Heater Negative with Respect to Cathode	
Total DC and Peak	50 Volts

Design Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur. To obtain satisfactory circuit performance, therefore, the equipment designer must establish the circuit design so that no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.

BASING DIAGRAM

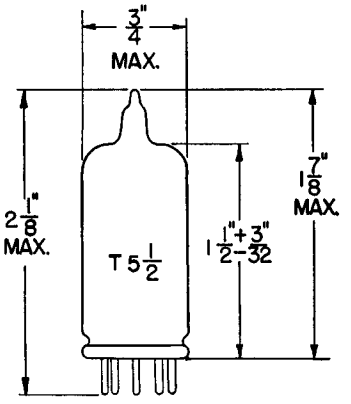


RETMA 7DK

TERMINAL CONNECTIONS

Pin 1—Plate
Pin 2—Grid Number 1
Pin 3—Heater
Pin 4—Heater
Pin 5—Cathode
Pin 6—Grid Number 1
Pin 7—Plate

PHYSICAL DIMENSIONS



RETMA 5-2

GENERAL ELECTRIC

Supersedes ET-T784, dated 8-51

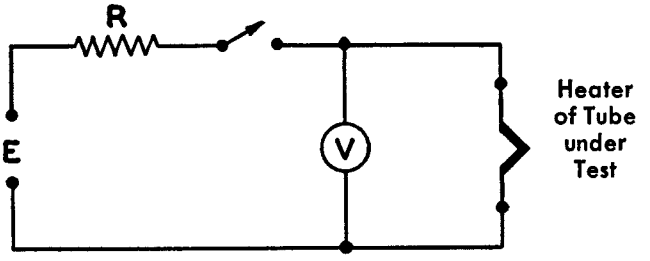
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	80 Volts
Cathode-Bias Resistor	150 Ohms
Amplification Factor	13.5
Plate Resistance, approximate	2100 Ohms
Transconductance	6500 Micromhos
Plate Current	17.5 Milliamperes

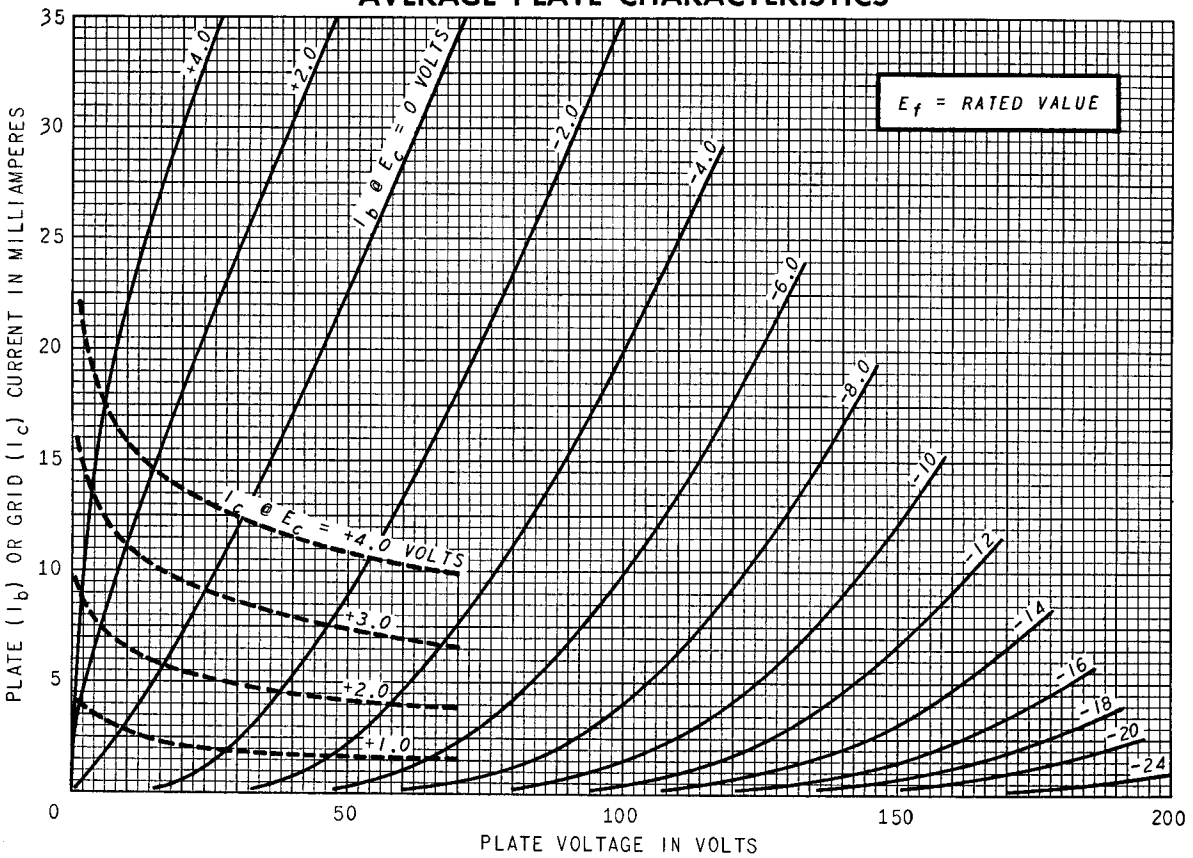
UHF OSCILLATOR SERVICE§	2AF4	6AF4
Plate Supply Voltage	100	100 Volts
Plate Resistor	220	220 Ohms
Grid Resistor	10000	10000 Ohms
Plate Current	17.5	17 Milliamperes
Frequency	1000	1000 Megacycles
Grid Current	700	750 Microamperes

* Heater warm-up time is defined as the time required in the circuit shown at the right for the voltage across the heater terminals (V) to increase from zero to the heater test voltage (V_1). For this type, E = 9.32 volts (RMS or DC), V_1 = 1.87 volts (RMS or DC), and R = 11.8 ohms.



† With external shield (RETMA 316) connected to pin 5 unless otherwise indicated.
‡ With external shield (RETMA 316) connected to pin 1.
§ Measured in JETEC standard UHF oscillator No. 400.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS