

engineering TUBE DATA

F-6801
POWER
TRIODE



Components Division

DESCRIPTION

The F-6801 is a three electrode tube designed for use as an industrial oscillator. The anode is capable of dissipating 10 kilowatts during Continuous Commercial Service. Cooling is accomplished by forced air. The cathode is a thoriated tungsten filament of free-hung design and may be operated on d-c or single phase a-c. Maximum ratings apply up to 22.5 megacycles and operation up to 50 megacycles is permissible at reduced ratings.

ELECTRICAL

Filament Voltage	7.5 volts
Filament Current	107 amperes
Filament Starting Current	300 max. amperes
Filament Cold Resistance	.01 ohms
Filament Heating Time	15 seconds min.
Amplification Factor	
$E_c = -200$ v. $I_b = 1.25$ amps	19.5
Direct Inter-electrode Capacitances	
Grid-Plate	27 μmf
Grid-Filament	25 μmf
Plate-Filament	1.25 μmf

MECHANICAL

Mounting Position Vertical, anode down
Air Flow Through Radiator

The tabulation listed below indicates the required flow of incoming air, through the radiator, for the various plate dissipation values. Cooling air to be applied before the application of filament power and to continue for 3 minutes after removal of filament power.

Percentage of Maximum Rated Plate Dissipation for each Class of Service

	100% rating	80% rating	60% rating	
Air Flow	750	525	350	min. cfm
Static Pressure	2	1	.45	inches water
Radiator Temperature (measured on the core at end away from incoming air)			200	max. °C
Glass Temperature (at hottest part), Note 1			180	max. °C
Net Weight, approximate			45	pounds

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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Radio-Frequency Power Amplifier and Oscillator - Class C Telegraphy
(Key down conditions per tube without Amplitude Modulation) Note 2

Maximum CCS Ratings, Absolute Values

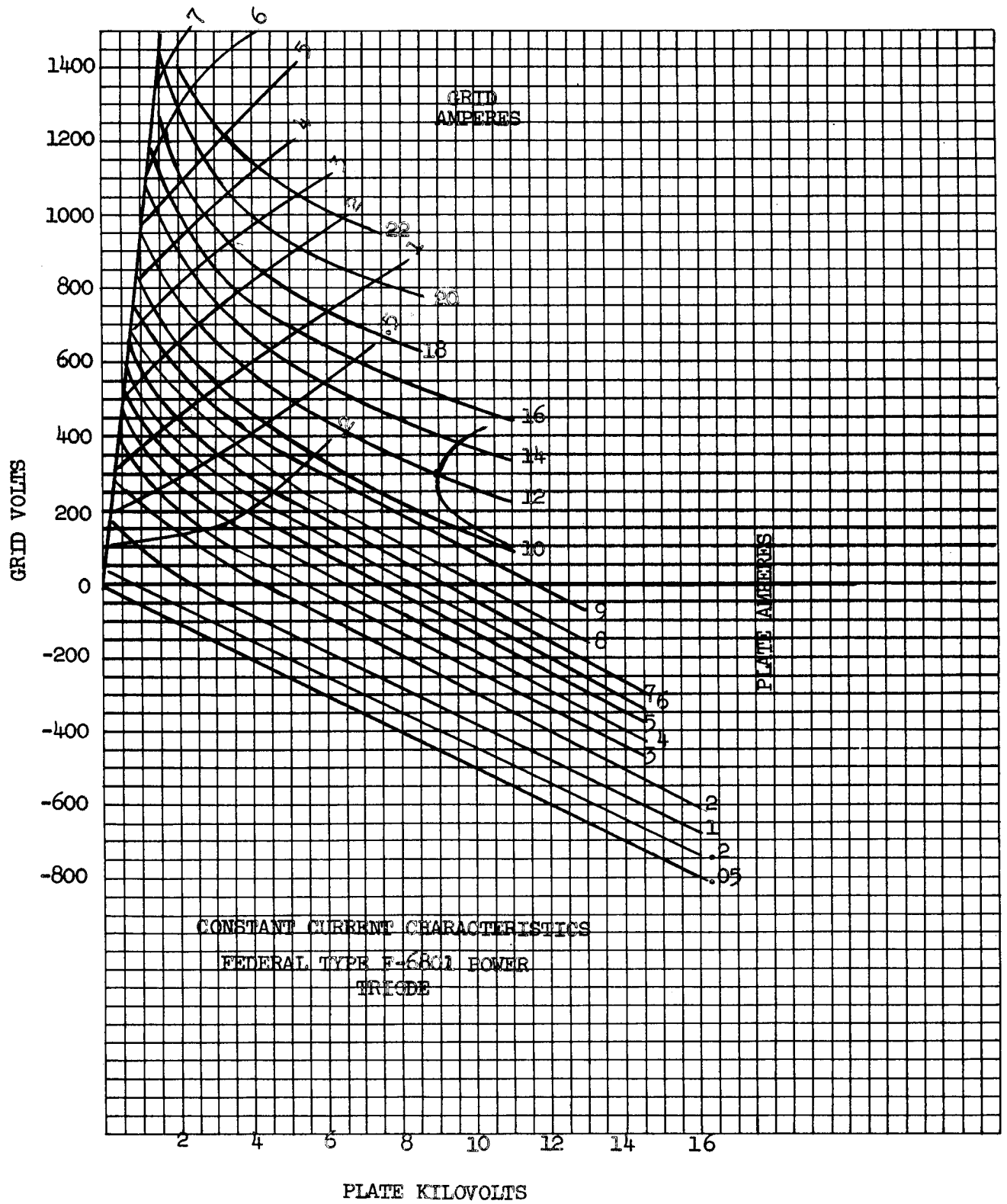
D-C Plate Voltage	15,000 max. volts
D-C Grid Voltage	-1800 max. volts
D-C Plate Current	3.5 max. amperes
D-C Grid Current	.5 max. ampere
Plate Input	40 max. kilowatts
Plate Dissipation	10 max. kilowatts

Typical Operation

D-C Plate Voltage	12,500 volts
D-C Grid Voltage	-1200 volts
Peak R-F Grid Voltage	2000 volts
D-C Plate Current	3.0 amperes
D-C Grid Current, approximate	.43 amperes
Driving Power, approximate	850 watts
Power Output, approximate	28 kilowatts

Note 1: Operation at frequencies above 15 mc may require air flow on the dish center in order to hold the temperature of the seals and dish below 180°C. This flow may be obtained by deflection of the anode cooling air, or by means of a separate blower supplying 50 cfm through a 3" diameter nozzle.

Note 2: Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115 per cent of the carrier conditions.



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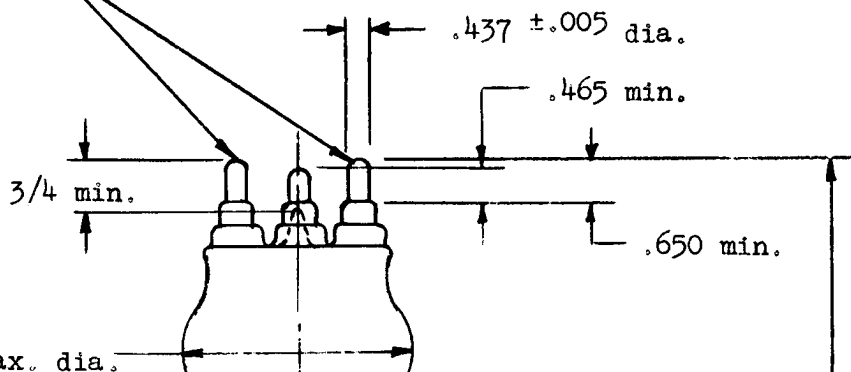
FILAMENT TERMINALS
(SHORT)

The tube base must enter to a distance of .625 into a flat gage having four holes .536 ±.001 dia. on a 2.125 ±.001 dia. B.C. at angles of 90° ± 10°.

AIR COOLED RADIATOR

5-3/8 ±.1/16 R.

GRID TERMINALS



13-3/4 max.

8-1/4 max.

7-9/16
max. dia.

OUTLINE
F-6801 POWER TRIODE