

FEDERAL POWER TRIODE

Type F-7C25

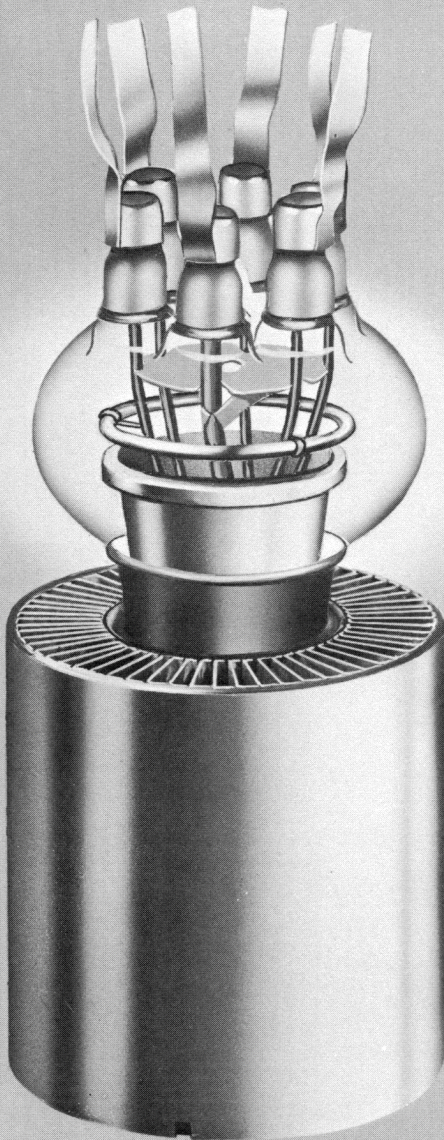
2.5 Kilowatts Plate Dissipation



GENERAL DATA

DESCRIPTION:

Federal's Type F-7C25 is a three electrode tube designed for use in industrial applications. The relatively wide spacing between the elements, and the lack of internal insulators make this type meet the severe conditions of radio frequency heating service. The anode is air-cooled, capable of dissipating 2.5 kilowatts. The cathode is a thoriated tungsten filament. Maximum ratings apply up to 30 megacycles.



Electrical:

| | |
|--------------------------------------|-----------------------|
| ▶ Filament Voltage | 11 Volts |
| ▶ Filament Current | 28 Amperes |
| ▶ Filament Starting Current | 56 Amperes |
| ▶ Filament Cold Resistance | .047 Ohms |
| ▶ Peak Cathode Current | 10 Amperes |
| ▶ Amplification Factor, | 25 |
| $E_b=3,000$ Volts, $I_b=0.200$ Amps. | |
| ▶ Interelectrode Capacitances | |
| Grid-Plate | 13.2 $\mu\mu\text{f}$ |
| Grid-Filament | 14.5 $\mu\mu\text{f}$ |
| Plate-Filament | 1.7 $\mu\mu\text{f}$ |

Mechanical:

| | | | |
|----------------------------------|----------------------|-----|-----|
| ▶ Mounting Position— | Vertical, Anode Down | | |
| ▶ Type of Cooling—Forced Air | | | |
| Maximum Incoming Air Temperature | 45° C | | |
| ▶ Required Air Flow on Anode | | | |
| Plate Dissipation (Kilowatts) | 2.5 | 2.0 | 1.5 |
| Air Flow—Cubic Feet Per Min. | 150 | 120 | 90 |
| Pressure—Inches Water | 2.5 | 1.6 | 0.9 |
| Maximum Glass Temperature | 150° C | | |
| ▶ Net Weight, Approximate | 5 Pounds | | |

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Federal's longer tube life means lower costs. Increase the life of the tubes in your equipment, and unit costs per hour go down.

Maximum Ratings and Typical Operating Conditions

For maximum frequency of 50 megacycles

RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—CLASS C TELEGRAPHY

Maximum Ratings

| | |
|-------------------|---------------|
| DC Plate Voltage | 5,000 Volts |
| DC Grid Voltage | —1,500 Volts |
| DC Plate Current | 1.3 Amperes |
| DC Grid Current | 0.150 Amperes |
| Plate Input | 6.5 Kilowatts |
| Plate Dissipation | 2.5 Kilowatts |

Typical Operation

| | | | |
|------------------------|-------|-------|---------------|
| DC Plate Voltage | 4,000 | 4,500 | 5,000 Volts |
| DC Grid Voltage | —400 | —500 | —600 Volts |
| Peak R-F Grid Voltage | 1,000 | 1,150 | 1,300 Volts |
| DC Plate Current | 1.0 | 1.2 | 1.2 Amperes |
| DC Grid Current | 0.08 | 0.1 | 0.13 Amperes |
| Driving Power, Approx. | 80 | 110 | 160 Watts |
| Power Output | 2.5 | 3.1 | 4.0 Kilowatts |

PLATE-MODULATED RADIO-FREQUENCY POWER AMPLIFIER—CLASS C TELEPHONY

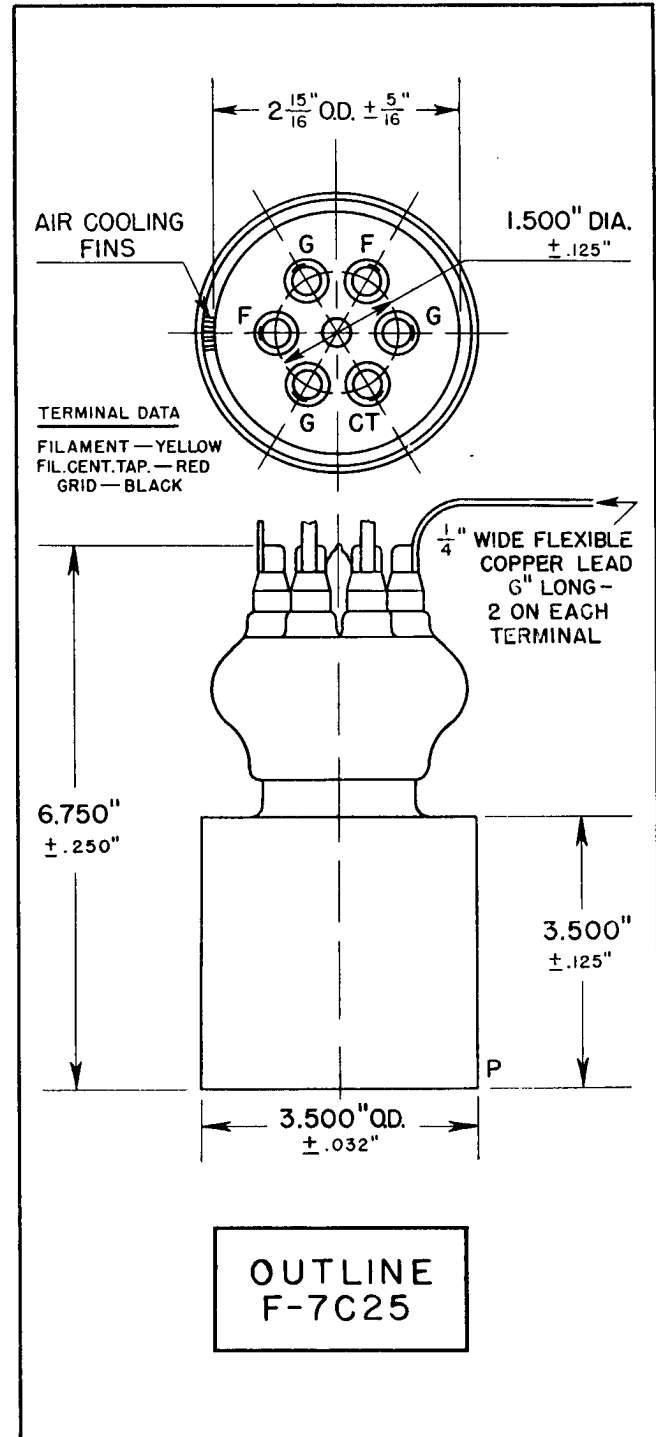
(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

Maximum Ratings

| | |
|-------------------|---------------|
| DC Plate Voltage | 4,000 Volts |
| DC Grid Voltage | —1,500 Volts |
| DC Plate Current | 1.0 Amperes |
| DC Grid Current | 0.15 Amperes |
| Plate Input | 4.0 Kilowatts |
| Plate Dissipation | 1.6 Kilowatts |

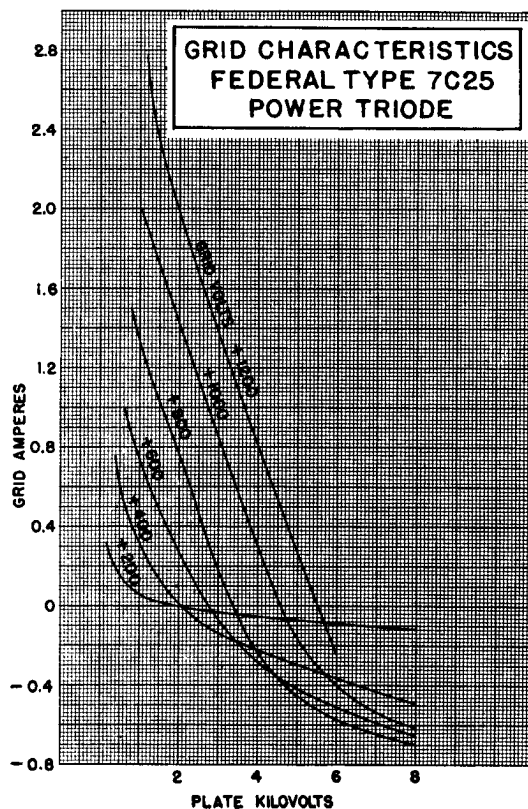
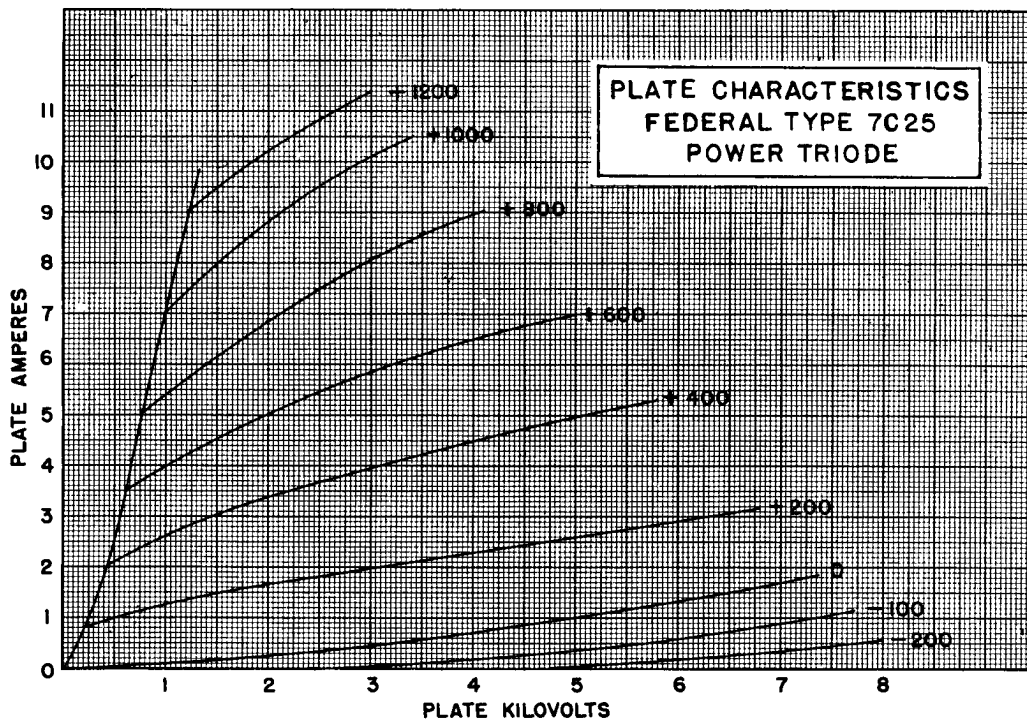
Typical Operation

| | |
|------------------------|---------------|
| DC Plate Voltage | 3,500 Volts |
| DC Grid Voltage | —500 Volts |
| Peak R-F Grid Voltage | 1,000 Volts |
| DC Plate Current | 0.825 Amperes |
| DC Grid Current | 0.110 Amperes |
| Driving Power, Approx. | 100 Watts |
| Power Output | 2 Kilowatts |



Federal's name on a tube signifies the best in design, engineering, materials, components and craftsmanship.

FEDERAL POWER TRIODE Type F-7C25 2.5 Kilowatts Plate Dissipation

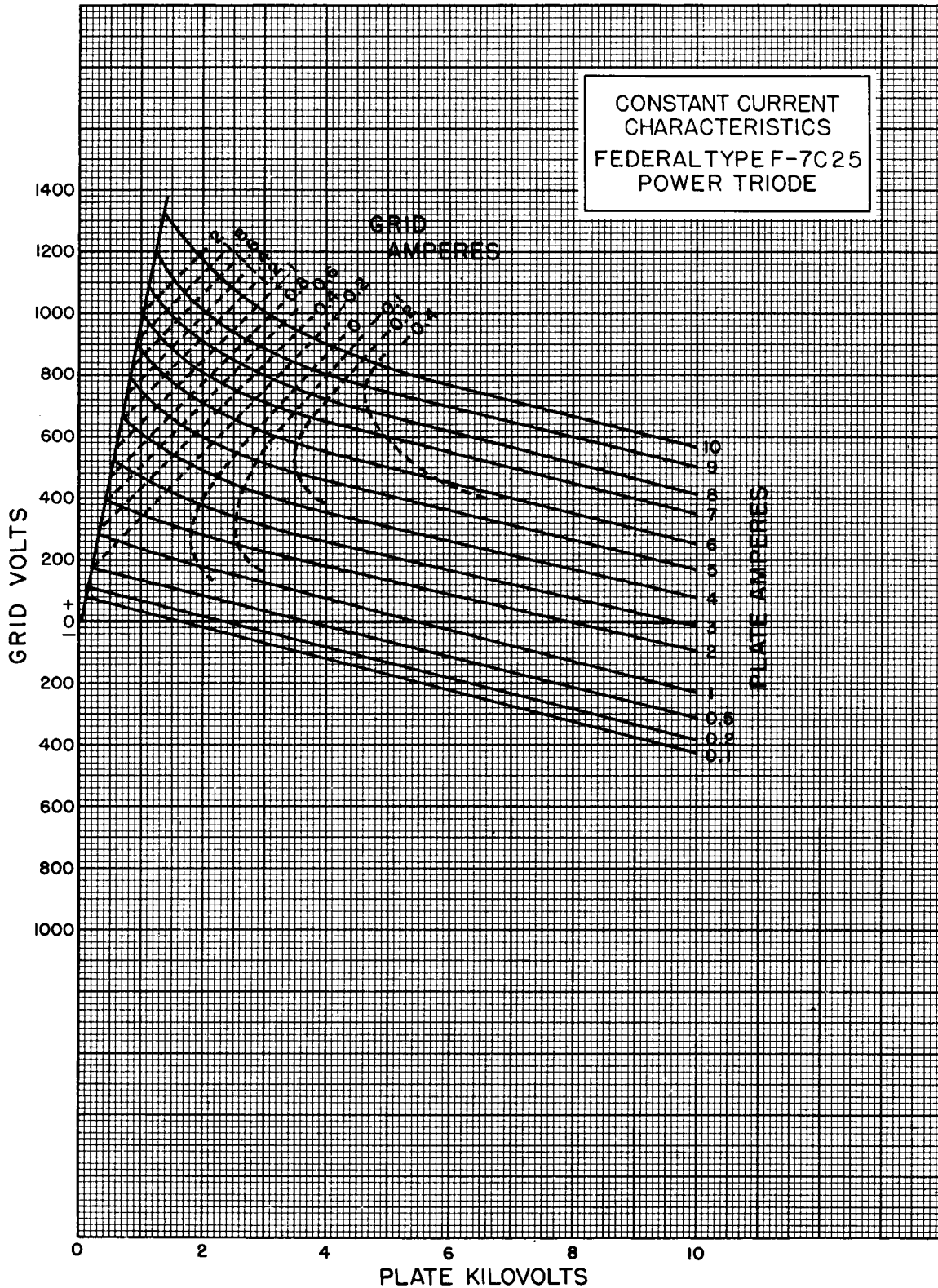


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2.5 Kilowatts Plate Dissipation



Federal tubes have always been known for their *plus values*: an extra rugged construction, a longer life of service.



Federal Telephone and Radio Company

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