

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, $E_b=3,000$ Volts, $I_b=0.200$ Amps.	25
▶ Interelectrode Capacitances	
Grid-Plate	13.2 μf
Grid-Filament	14.5 μf
Plate-Filament	1.7 μf

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

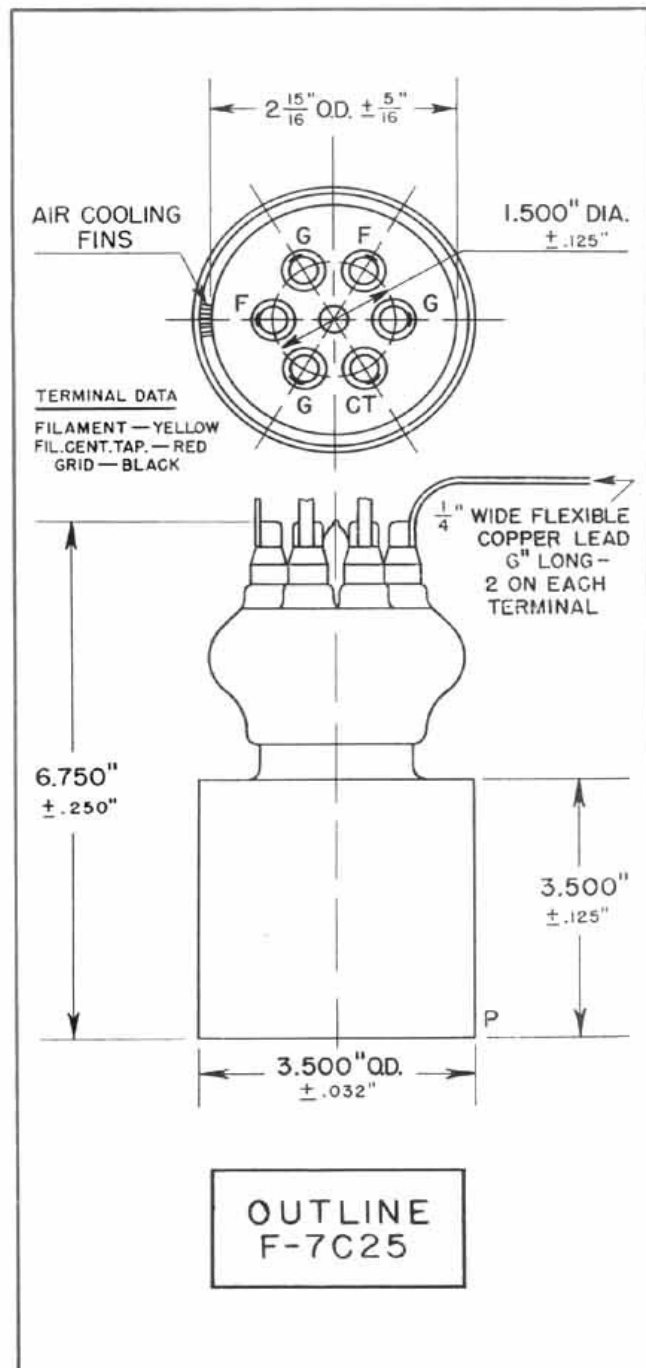
(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

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

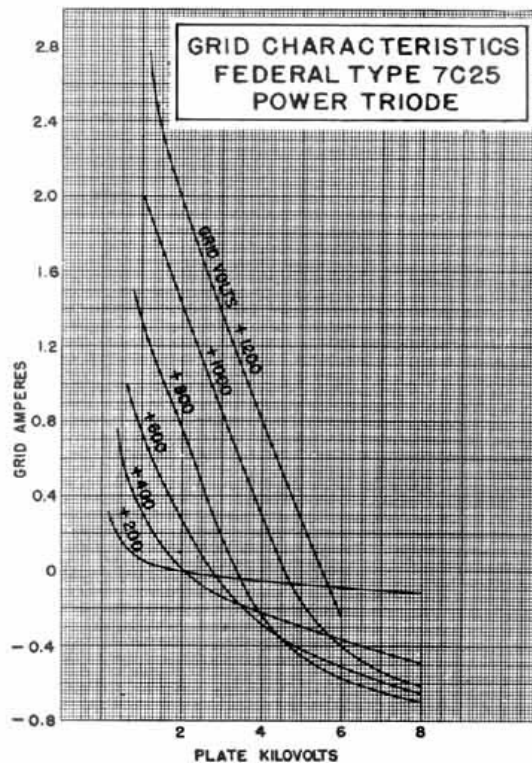
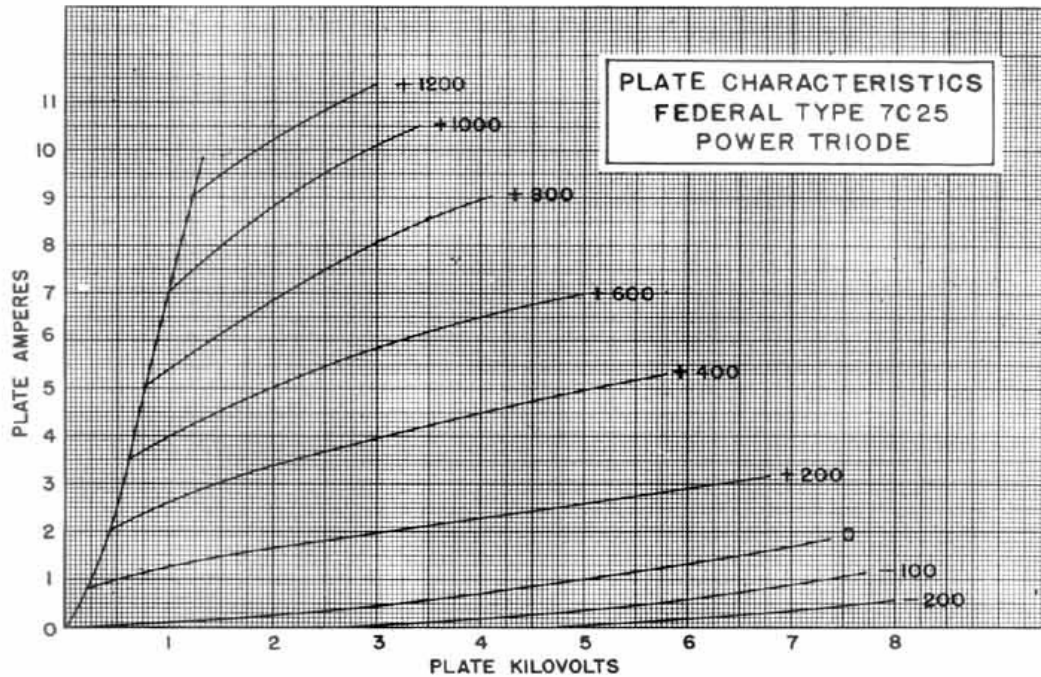


Federal's name on a tube signifies the best in design, engineering, materials, components and craftsmanship.

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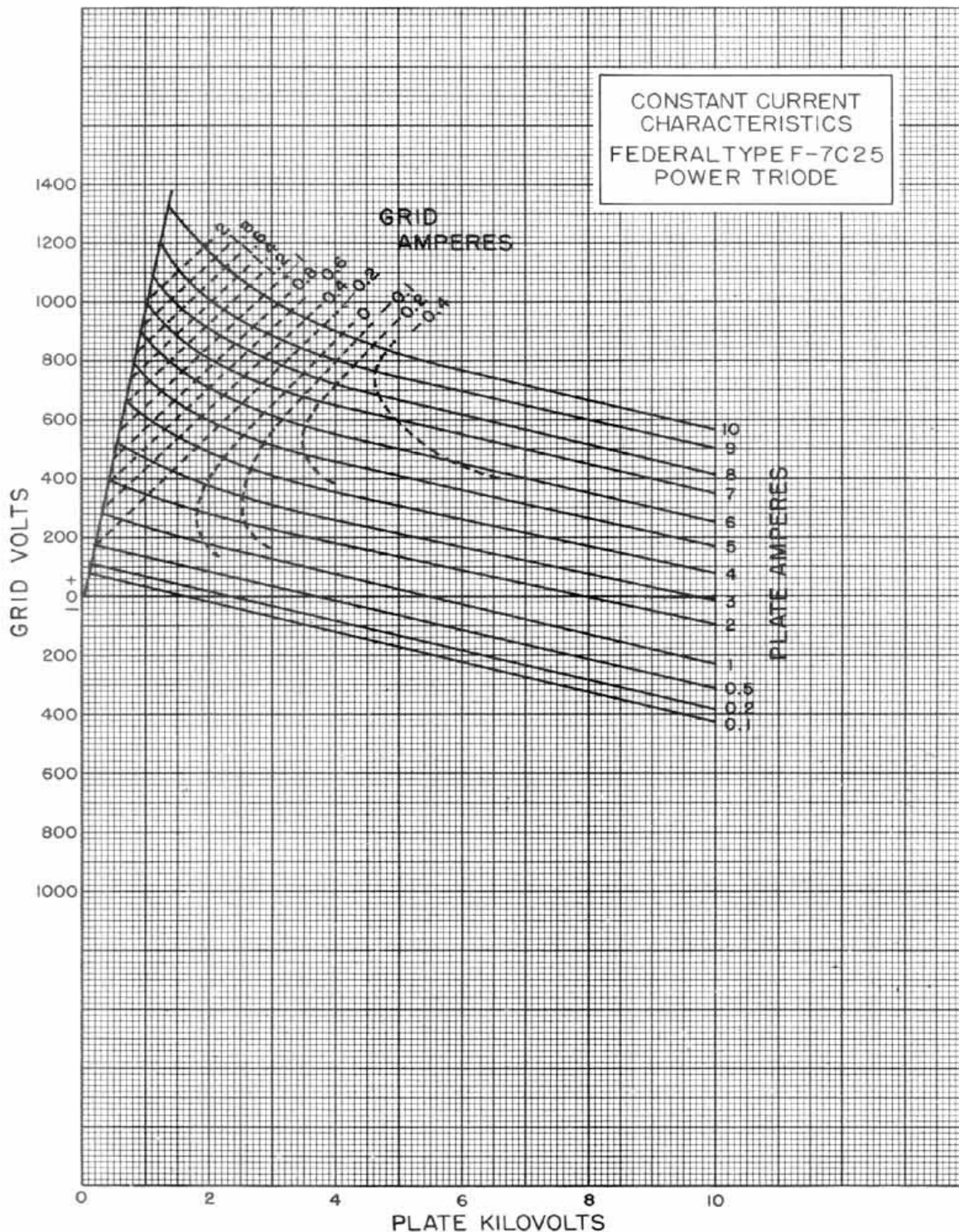


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Federal tubes have always been known for their *plus* values: an extra rugged construction, a longer life of service.



Federal Telephone and Radio Company

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