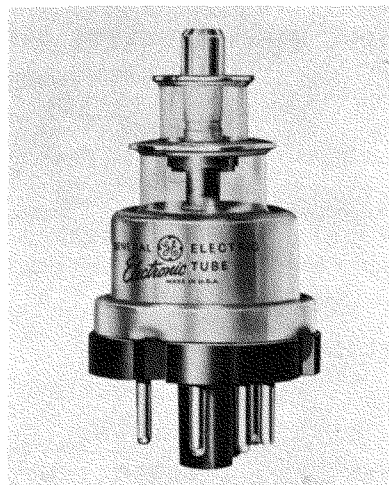




DESCRIPTION AND RATING

The 2C43 is a triode of lighthouse construction designed for use as a Class C radio-frequency amplifier or pulsed oscillator at frequencies as high as 3370 megacycles.

The radio-frequency cathode connection is made through a disk-type capacitor which is incorporated in the tube. This results in a low-impedance radio-frequency path from cathode to the external circuit.

The envelope construction results in low losses, provides convenient contact surfaces, and enables the tube to fit easily into coaxial circuits.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential	
Heater Characteristics and Ratings	
Heater Voltage, AC or DC	6.3 $\pm$ 0.3* Volts
Heater Current	0.9† Amperes
Direct Interelectrode Capacitances‡	
Grid to Plate: (g to p)	1.8 pf
Grid to Cathode: (g to k)	3.0 pf
Plate to Cathode: (p to k), maximum .	0.04 pf
Cathode RF Connection to Cathode .	100 pf

MECHANICAL

Mounting Position—Any	
Net Weight, approximate	1 Ounce
Cooling—Convection and Conduction	

MAXIMUM RATINGS

ABSOLUTE-MAXIMUM VALUES

RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—CLASS C

Frequency	1500 Megacycles
DC Plate Voltage	500 Volts
DC Plate Current	40 Milliamperes
DC Cathode Current	55 Milliamperes
Plate Dissipation	12 Watts
Heater-Cathode Voltage	
Heater Positive with Respect to Cathode	90 Volts

PLATE-PULSED OSCILLATOR

Cathode Heating Time, minimum	60 Seconds
Frequency	3370 Megacycles
Peak Positive-Pulse Plate Supply	
Voltage	3500 Volts
Duty Factor of Plate Pulse	0.006
Pulse Duration	10 Microseconds
Plate Current	
Average During Plate Pulse	2.75 Amperes
Cathode Current	
Average During Plate Pulse	4.0 Amperes

Heater Negative with Respect to

Cathode	90 Volts
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Cathode-Cathode RF Connection Voltage

Cathode RF Connection Positive with

Respect to Cathode	90 Volts
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Cathode RF Connection Negative with

Respect to Cathode	90 Volts
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Envelope Temperature at Hottest Point . 175 C

Plate Dissipation	12 Watts
-----------------------------	----------

Heater-Cathode Voltage

Heater Positive with Respect to

Cathode	90 Volts
-------------------	----------

Heater Negative with Respect to

Cathode	90 Volts
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Cathode-Cathode RF Connection Voltage

Cathode RF Connection Positive with

Respect to Cathode	90 Volts
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Cathode RF Connection Negative with

Respect to Cathode	90 Volts
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Envelope Temperature at Hottest Point . 175 C

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Heater Voltage.....	6.3	Volts
Plate Voltage.....	250	Volts
Cathode-Bias Resistor.....	100	Ohms
Amplification Factor.....	50	
Transconductance.....	8100	Micromhos
Plate Current.....	21	Milliamperes

PUSH-PULL CW OSCILLATOR, VALUES FOR TWO TUBES

Frequency.....	350	350	Megacycles
Heater Voltage.....	5.8	5.8	Volts
DC Plate Voltage.....	360	470	Volts
Grid Resistor.....	1000	1000	Ohms
DC Plate Current.....	28	38	Milliamperes
Power Output, approximate.....	4.7	9.0	Watts

PUSH-PULL RADIO-FREQUENCY POWER AMPLIFIER—CLASS C—PLATE MODULATED, VALUES FOR TWO TUBES

Frequency.....	300	Megacycles
Heater Voltage.....	5.8	Volts
DC Plate Voltage.....	350	Volts
Grid Resistor.....	1200	Ohms
DC Grid Voltage.....	—50	Volts
DC Grid Current, approximate.....	40	Milliamperes
DC Plate Current.....	48	Milliamperes
Driving Power, approximate.....	3	Watts
Power Output.....	10	Watts

* The equipment designer should design the equipment so that the heater voltage is centered at a value suitable for the application. Heater voltage variations about the center value should be kept as small as practical and should not, in any case, exceed $\pm 5\%$. The optimum center value of heater voltage depends on the cathode current and on the other

PUSH-PULL FREQUENCY TRIPLER, VALUES FOR TWO TUBES

Output Frequency.....	300	Megacycles
Heater Voltage.....	5.8	Volts
DC Plate Voltage.....	350	Volts
Grid Resistor.....	2700	Ohms
DC Grid Voltage.....	—80	Volts
DC Grid Current, approximate.....	30	Milliamperes
DC Plate Current.....	50	Milliamperes
Driving Power, approximate.....	3	Watts
Power Output.....	4.4	Watts

PLATE-PULSED OSCILLATOR

Frequency.....	3370	Megacycles
Duty Factor.....	0.001	
Pulse Duration.....	1.0	Microseconds
Pulse Repetition Rate.....	1000	Pulses per Second

Peak Positive-Pulse Plate Supply

Voltage.....	3000	Volts
Grid-Bias Resistor.....	100	Ohms
Plate Current		
Average.....	2.5	Milliamperes
Average During Plate Pulse.....	2.5	Ampères
Power Output		
Average During Plate Pulse.....	1.75	Kilowatts

parameters of circuit design and operation. For specific recommendations, contact your General Electric tube sales representative.

† Heater current of a bogey tube at $E_f = 6.3$ volts.

‡ Without external shield.

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of

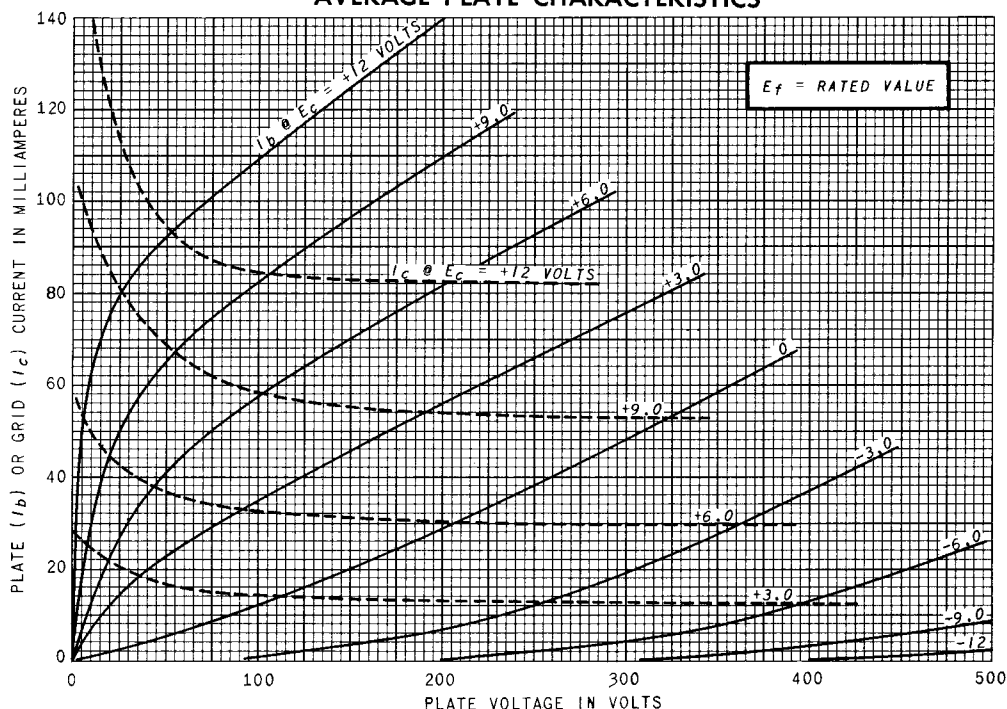
all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or

elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

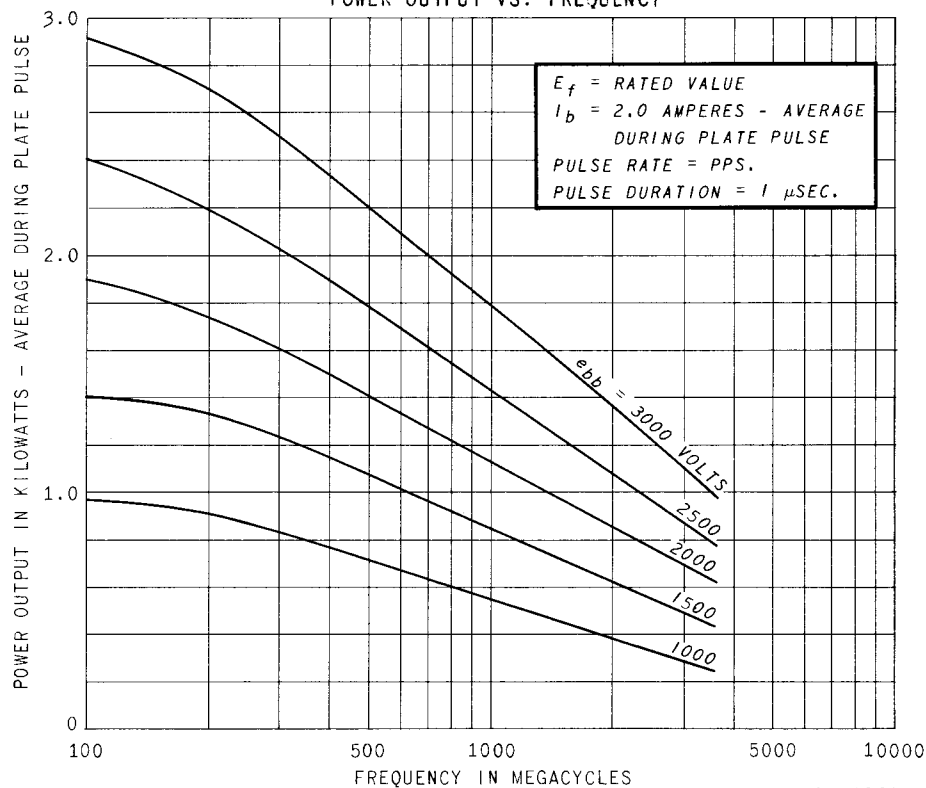
AVERAGE PLATE CHARACTERISTICS



OCTOBER 9, 1961

APPROXIMATE PLATE-PULSED OSCILLATOR PERFORMANCE

POWER OUTPUT VS. FREQUENCY



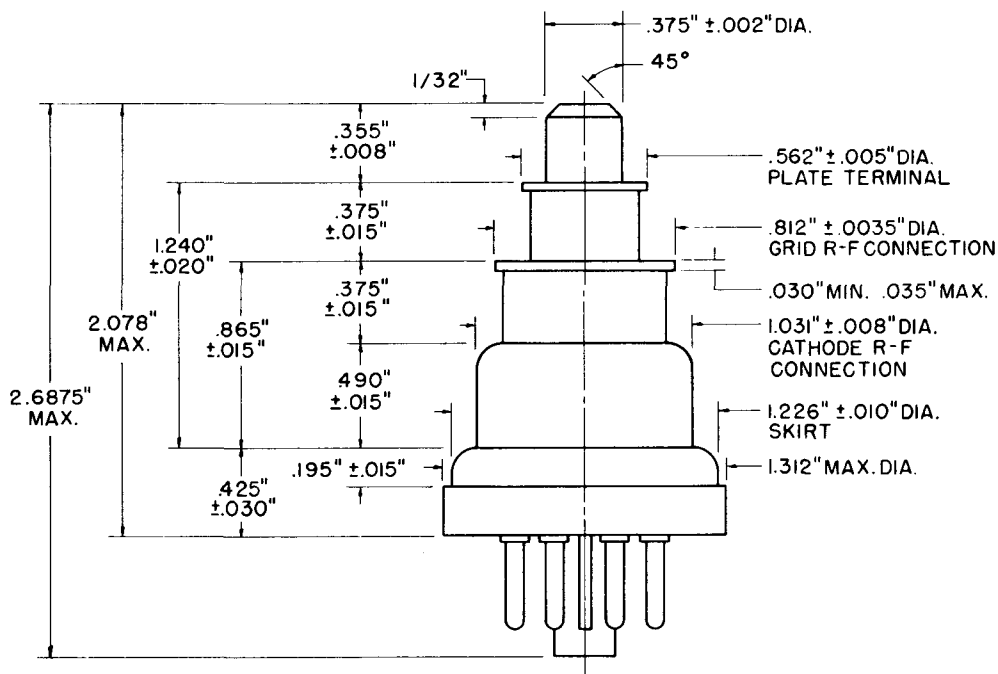
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NOTE 1

Glass shall not protrude beyond edge of plate terminal or grid RF connection.

NOTE 2

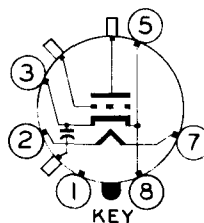
Plate terminal and grid RF connection to be concentric with respect to the cathode RF connection within 1/64 inch (runout 1/32 inch, maximum).



BASING DIAGRAM

TERMINAL CONNECTIONS

Pin	Connection
1	Internal Connection
2	Heater
3	Cathode
5	Cathode
7	Heater
8	Cathode



RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky