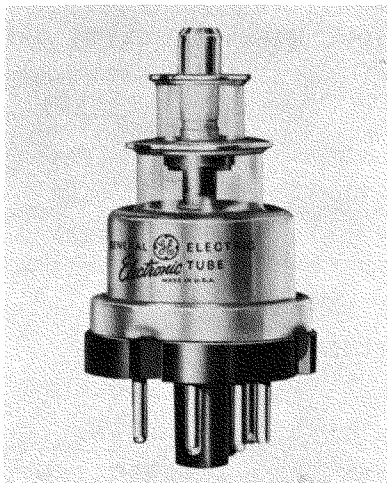




PLANAR TRIODE



DESCRIPTION AND RATING

The 2C40-A is a triode of lighthouse construction designed for use as a CW oscillator, radio-frequency amplifier, or plate-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 the cathode to the external circuit.

The envelope construction results in low losses, provides convenient electrode 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† 0.75 Amperes

Direct Interelectrode Capacitances‡

Grid to Plate: (g to p) 1.3 pf

Grid to Cathode: (g to k) 2.15 pf

Plate to Cathode 0.03 pf

Cathode RF Connection to Cathode . . 100 pf

MECHANICAL

Mounting Position—Any

Net Weight, approximate 1.2 Ounces

Cooling—Convection and Conduction

MAXIMUM RATINGS

ABSOLUTE-MAXIMUM VALUES

Radio-Frequency Power Amplifier or Oscillator—Class C

Frequency 3370 Megacycles

DC Plate Voltage 500 Volts

DC Grid Voltage -50 Volts

DC Plate Current 25 Milliampers

DC Grid Current 8.0 Milliampers

Plate Dissipation 6.5 Watts

Heater-Cathode Voltage

Heater Positive with Respect to Cathode 90 Volts

Heater Negative with Respect to

Cathode 90 Volts

Cathode-Cathode RF Connection Voltage

Cathode RF Connection Positive with

Respect to Cathode 90 Volts

Cathode RF Connection Negative with

Respect to Cathode 90 Volts

Envelope Temperature at Hottest Point. 175 C

PLATE-PULSED OSCILLATOR

Cathode Heating Time, minimum 60 Seconds

Frequency 3370 Megacycles

Peak Positive-Pulse Plate Supply

Voltage 1400 Volts

Duty Factor of Plate Pulse§ 0.002

Pulse Duration 1.5 Microseconds

Plate Current

Average§ 3.0 Milliampers

Average During Plate Pulse 2.0 Amperes

Negative Grid Voltage

Average During Plate Pulse 100 Volts

Grid Current

Average§ 1.5 Milliampers

Average During Plate Pulse 1.0 Amperes

Plate Dissipation§ 4.0 Watts

Heater-Cathode Voltage

Heater Positive with Respect to

Cathode 90 Volts

Heater Negative with Respect to

Cathode 90 Volts

Cathode-Cathode RF Connection Voltage

Cathode RF Connection Positive with

Respect to Cathode 90 Volts

Cathode RF Connection Negative with

Respect to Cathode 90 Volts

Envelope Temperature at Hottest

Point 175 C

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Heater Voltage.....	6.3	Volts	Amplification Factor.....	35	
Plate Voltage.....	250	Volts	Transconductance.....	5100	Micromhos
Cathode-Bias Resistor.....	200	Ohms	Plate Current.....	17	Milliamperes

RADIO-FREQUENCY OSCILLATOR

Frequency.....	3370	Megacycles	DC Grid Current, approximate.....	0.5	Milliamperes
DC Plate Voltage.....	250	Volts	DC Plate Current.....	20	Milliamperes
Grid Resistor.....	10000	Ohms	Power Output.....	75	Milliwatts
DC Grid Voltage.....	- 5.0	Volts			

PLATE-PULSED OSCILLATOR

Frequency.....	3000	Megacycles	Plate Current		
Duty Factor.....	0.001		Average During Plate Pulse.....	1.0	Amperes
Pulse Duration.....	1.0	Microseconds	Useful Power Output		
Peak Positive-Pulse Plate Supply			Average.....	0.3	Watts
Voltage.....	1400	Volts	Average During Plate Pulse.....	300	Watts

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

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

‡ Without external shield.

§ In any 500 microsecond interval.

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

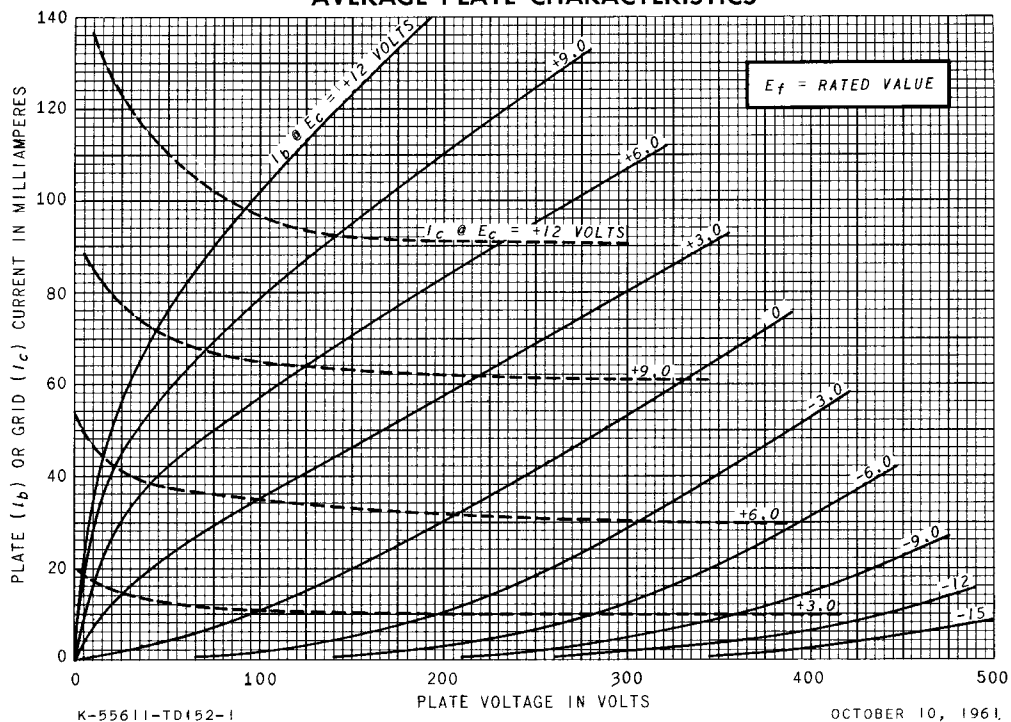
all other electron devices in the equipment.

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.

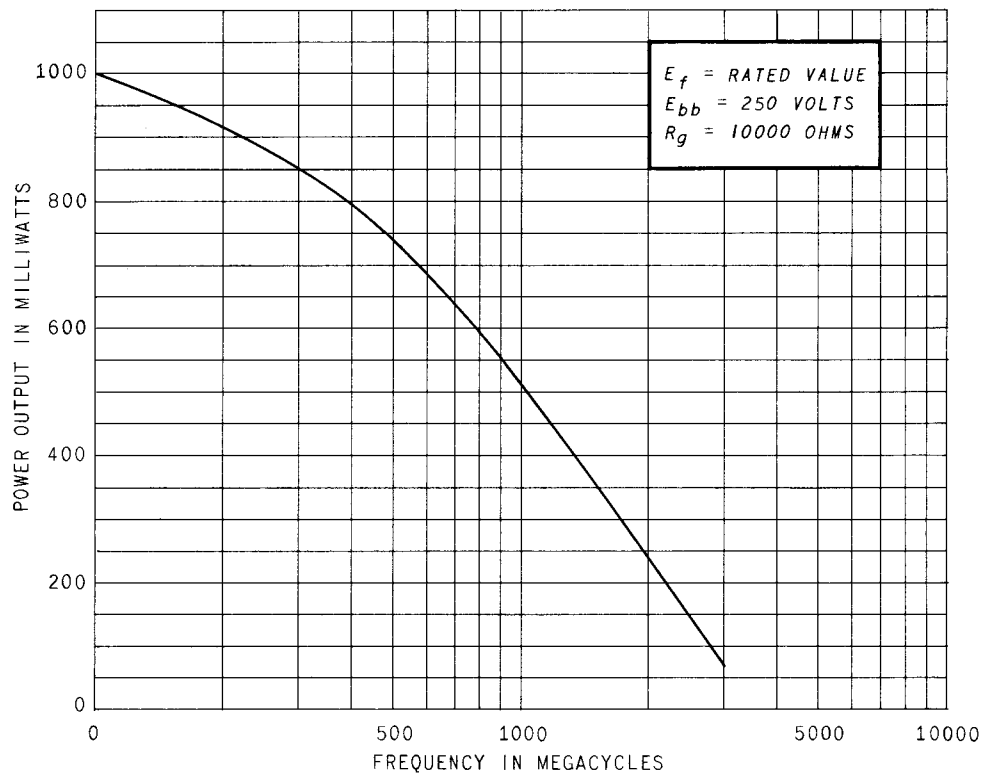
The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or

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



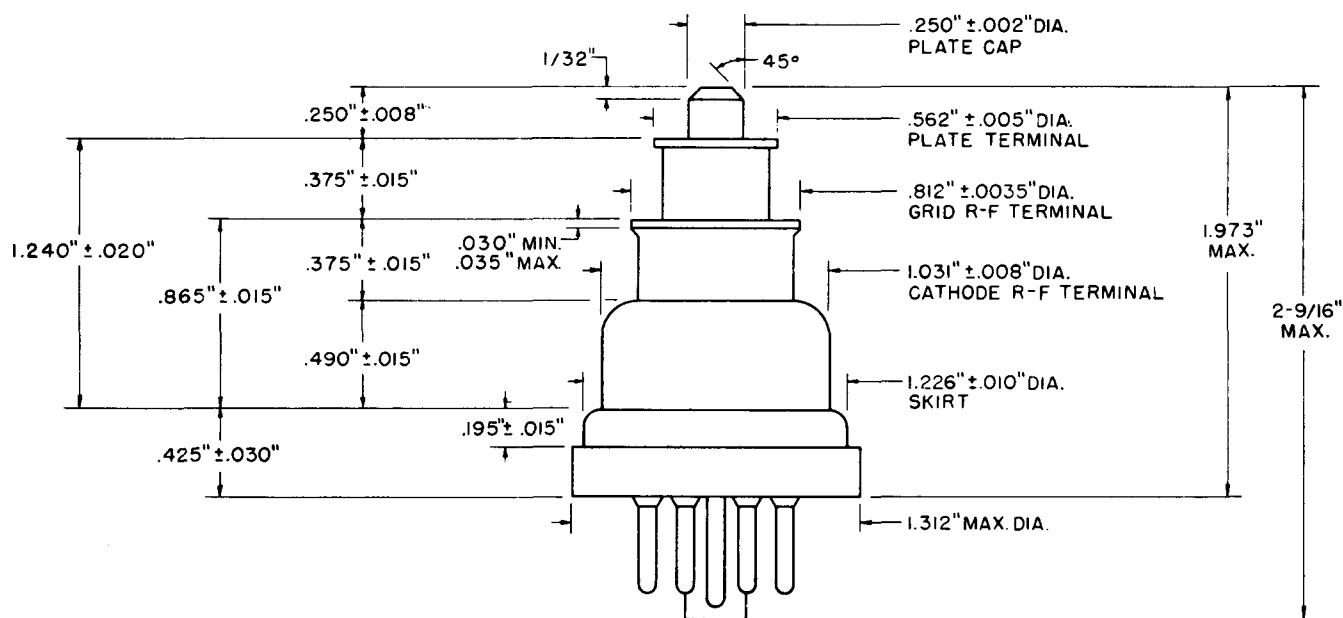
POWER OUTPUT VS. FREQUENCY



NOTES:

1. Glass shall not protrude beyond edge of anode RF terminal or grid RF terminal.
2. Plate cap and grid RF terminal to be concentric with respect to the cathode RF terminal within 1/64 inch (run-out of 1/32 inch maximum).

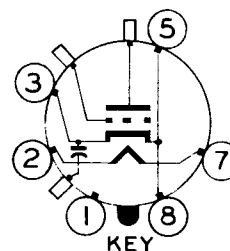
PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS

Pin 1—Internal Connection—Do Not Use
 Pin 2—Heater
 Pin 3—Cathode
 Pin 5—Cathode
 Pin 7—Heater
 Pin 8—Cathode
 Top Cap—Plate
 Disk Terminal—Grid
 Shell—Cathode RF Terminal

BASING DIAGRAM



RECEIVING TUBE DEPARTMENT

GENERAL  ELECTRIC

Owensboro, Kentucky