

High-Mu Triode

CERAMIC-METAL PENCIL TUBE

OPERATING FREQUENCIES UP TO 4 GHz AND ABOVE

For Grid-Pulsed Operation as a Power Amplifier or Oscillator in Compact Mobile and Aircraft Equipment at Altitudes up to 50,000 Feet without Pressurization

ELECTRICAL

Heater, for Unipotential Cathode

Voltage (AC or DC)	6.3 $\pm$ 10%	V
Current at 6.3 volts	0.295	A

Cathode Warmup Time (Average) to reach 80% of operating plate current

For conditions: dc plate supply volts = 0, cathode resistor = 0 Ω , load resistor = 10 Ω , heater volts = 6.3	10	s
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Amplification Factor 100

Transconductance, for dc plate mA = 14, dc plate volts = 150, and cathode resistor = 11 Ω	16,000	μ S
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Direct Interelectrode Capacitances

Grid to plate.	1.75	pF
Grid to cathode and heater	3.9	pF
Plate to cathode and heater.	0.08 max	pF

MECHANICAL

Operating Position	Any
Weight (Approx.)	0.4 ounce
Dimensions and Terminal Connections.	See accompanying <i>Dimensional Outline</i>

Sockets

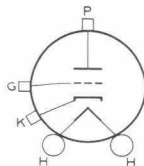
Heater-Terminals Connector	Grayhill ^a No.22-5, or equivalent
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Socket for operation up to about

550 MHz (Including heater-terminals connector)	Jetttron ^b No.CD7010, or equivalent
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TERMINAL DIAGRAM (Bottom View)

H — Heater
K — Cathode



G — Grid
P — Plate



GRID-PULSED SERVICE - Class C

Maximum Ratings, Absolute-Maximum Values Up to 4 GHz

For a maximum long-term duty factor of 0.01^c

DC Plate Voltage	2000 max	V
DC Grid Voltage		
Negative-bias value.	200 max	V
Positive value during gating pulse	25 max	V
Peak Plate Current	3.0 max	A
Peak Grid Current.	1.5 max	A
Plate Dissipation ^d	10 max	W
Grid Dissipation	0.5 max	W
Peak Heater-Cathode Voltage		
Heater negative with respect to cathode.	60 max	V
Heater positive with respect to cathode.	60 max	V

Typical Operation with Rectangular Waveshape in Grid-Drive
Oscillator Circuit at 1090 MHz

With duty factor of 0.01 and pulse duration of 0.5 microsecond

DC Plate Voltage	1400	V
Grid-Bias Voltage.	-80	V
Peak Positive Grid Voltage ^e	20	V
Peak Plate Current	1	A
Useful Power Output at Peak of Pulse	500	W

Typical Operation with Rectangular Waveshape in Grid-Drive
Amplifier Circuit at 1090 MHz

With duty factor of 0.005 and pulse duration of 0.5 microsecond

DC Plate Voltage	1000	V
Grid-Bias Voltage.	-30	V
Peak Plate Current	1.5	A
Peak Driving Power	150	W
Useful Power Output at Peak of Pulse	600	W

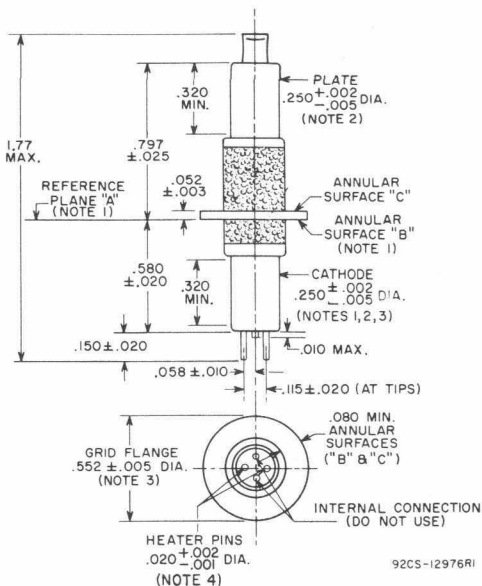
Typical Operation with Rectangular Waveshape in Cathode-
Drive Amplifier Circuit at 1090 MHz

With duty factor of 0.01 and pulse duration of 0.5 microsecond

DC Plate Voltage	1000	V
Cathode-Bias Voltage	25	V
Peak Plate Current	1.2	A
Peak Driving Power	180	W
Useful Power Output at Peak of Pulse	600	W

^a Grayhill, Inc., 561 Hillgrove Ave., LaGrange, Ill.^b Jettron Products, Inc., 56 Route 10, Hanover, N.J.^c This value is for continuous pulsing. The duty factor can be 0.25 for any interval up to 100 microseconds in length as long as the long-term duty factor does not exceed 0.01.^d Plate-seal temperature must be limited to 225°C.^e Amplitude of grid-drive gating pulse is adjusted to produce this value.

DIMENSIONAL OUTLINE



DIMENSIONS IN INCHES

Reference Plane "A" is defined as that plane against which annular surface "B" of the grid flange abuts.

Annular surface "B" is on the side of the grid flange toward the cathode cylinder.

Annular surface "C" is on the side of the grid flange toward the plate cylinder.

Note 1: With annular surface "B" resting on reference plane "A". The axis of the cathode cylinder will be within 2° of a line perpendicular to reference plane "A".

Note 2: The axes of the plate cylinder and cathode cylinder will coincide within 0.010 inch.

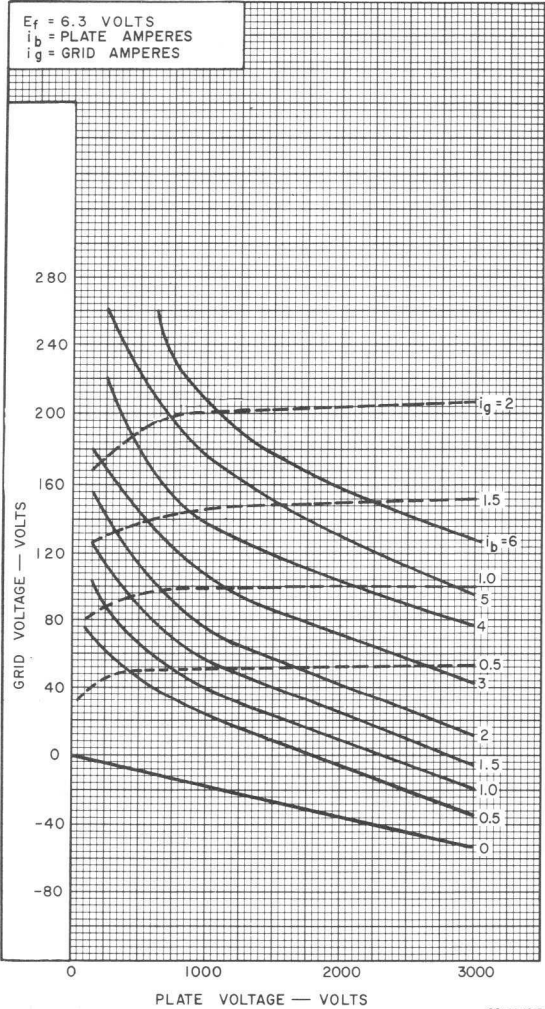
Note 3: The axes of the cathode cylinder and grid flange will coincide within 0.005 inch.

Note 4: Pin diameter is slightly greater when pretinned.



4062A

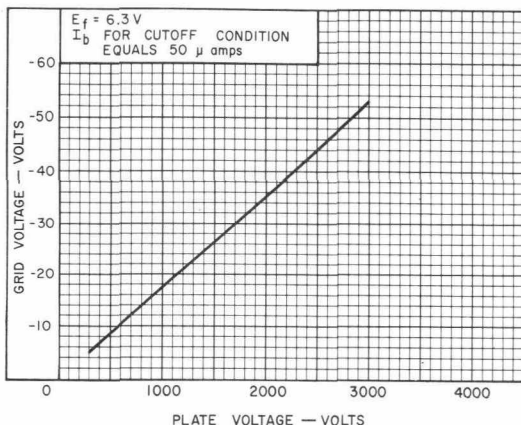
Average Constant-Current Characteristics of Type 4062A in Grid-Pulsed Service



92LM-1915



Plate-Current Cutoff Characteristic



92LS-1918



