4062A

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 ± 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
Amplification Factor	100	
Transconductance, for dc plate mA = 14, dc plate volts = 150, and cathode resistor = 11 Ω	16,000	μS
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 *Dimensional Outline*

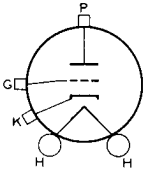
Sockets

Heater-Terminals Connector . . . . . Grayhill[a] No.22-5, or equivalent

Socket for operation up to about 550 MHz (Including heater-terminals connector) . . . . . Jettron[b] No.CD7010, or equivalent

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.

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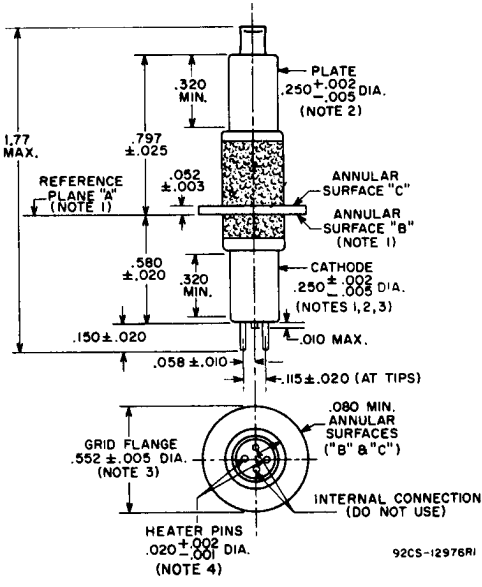
DIMENSIONAL OUTLINE



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^{0} 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.

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

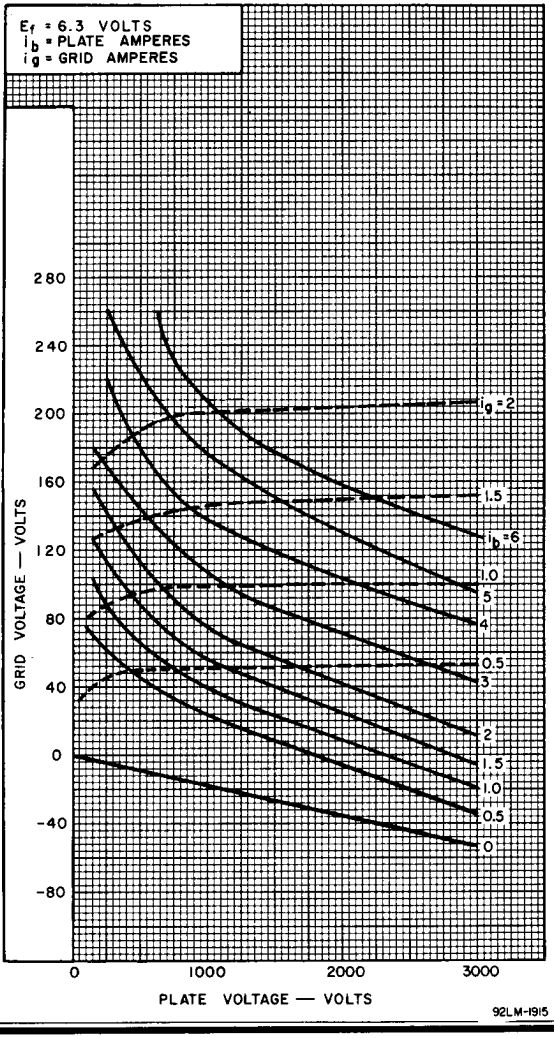


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Plate-Current Cutoff Characteristic