

High-Mu Triode

CERAMIC-METAL PENCIL TUBE OPERATING FREQUENCIES UP TO 4 GHz AND ABOVE

For Plate-Pulsed Operation as a Power Amplifier, Oscillator, and Frequency Multiplier 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 power output as rf oscillator or amplifier 5 s

Amplification Factor 70

Transconductance, for dc plate mA = 35, dc plate volts = 150, and cathode resistor = 11 Ω 35000 μ mho

Direct Interelectrode Capacitances^a

Grid to plate. 2.0 pF

Grid to cathode. 5.5 pF

Plate to cathode 0.08 max pF

MECHANICAL

Operating Position Any

Weight 0.4 oz

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

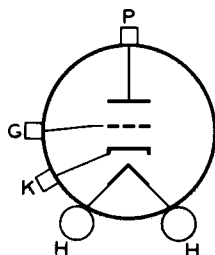
TERMINAL DIAGRAM (Bottom View)

H - Heater

K - Cathode

G - Grid

P - Plate



← Indicates a change.



PLATE-PULSED SERVICE—Class C

Maximum Ratings, Absolute-Maximum Values Up to 4 GHz

For a maximum duty factor of 0.01

	For Altitudes up to 25,000 ft	For Altitudes up to 50,000 ft	
Peak Plate Voltage	3500 max	2000 max	V
Peak Plate Current	3.0 max	3.0 max	A
DC Plate Current	40 max	40 max	mA
DC Grid Current.	15 max	15 max	mA
Plate Dissipation ^c	10 max	10 max	W
Peak Heater-Cathode Voltage			
Heater negative with respect to cathode.	60 max	60 max	V
Heater positive with respect to cathode.	60 max	60 max	V

Typical Operation as Plate-Pulsed Oscillator at 3.3 GHz

With duty factor of 0.001 and pulse duration of 1 μ s

Peak Plate Voltage	1750	V
DC Plate Current	3.0	mA
DC Grid Current.	1.4	mA
Grid Resistor.	2000	Ω
Useful Power Output at Peak of Pulse (Approx.) . . .	1300	W

Typical Operation as a Power Amplifier in Frequency
Range of 1 to 1.2 GHz

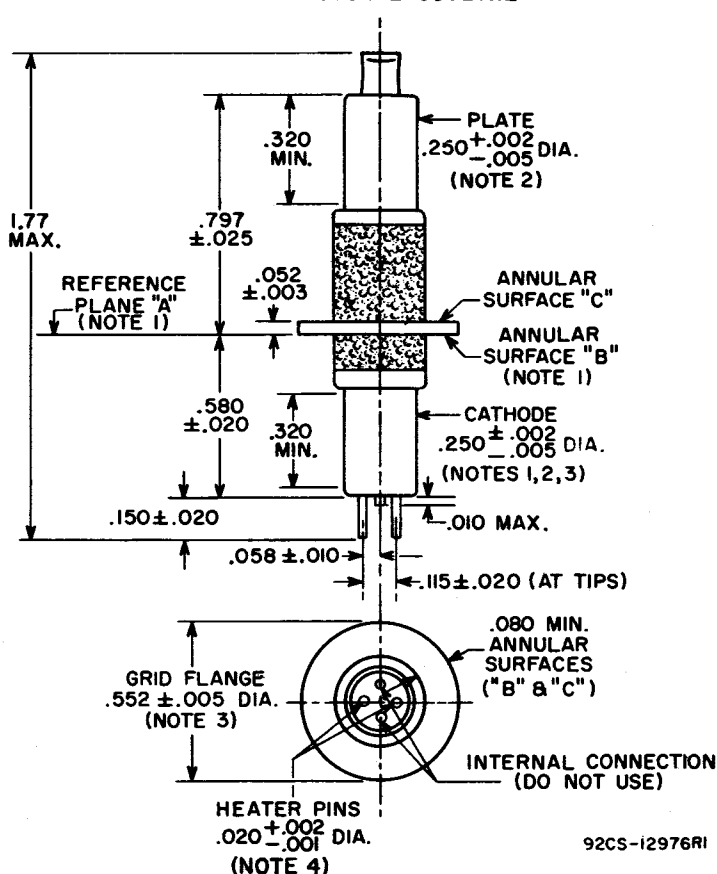
With duty factor of 0.001 and pulse duration of 7 μ s

Peak Plate Voltage	1300	V
Peak Plate Current	1.5	A
Peak Driving Power	250	W
Useful Power Output at Peak of Pulse (Approx.) . . .	1000	W

^a Grayhill, Inc., 561 Hillgrove Ave., La Grange, Ill.
^b Jettron Products, Inc., 56 Route 10, Hanover, N. J.
^c When used in a heat sink that will limit the plate-seal temperature to 2250 C.



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.

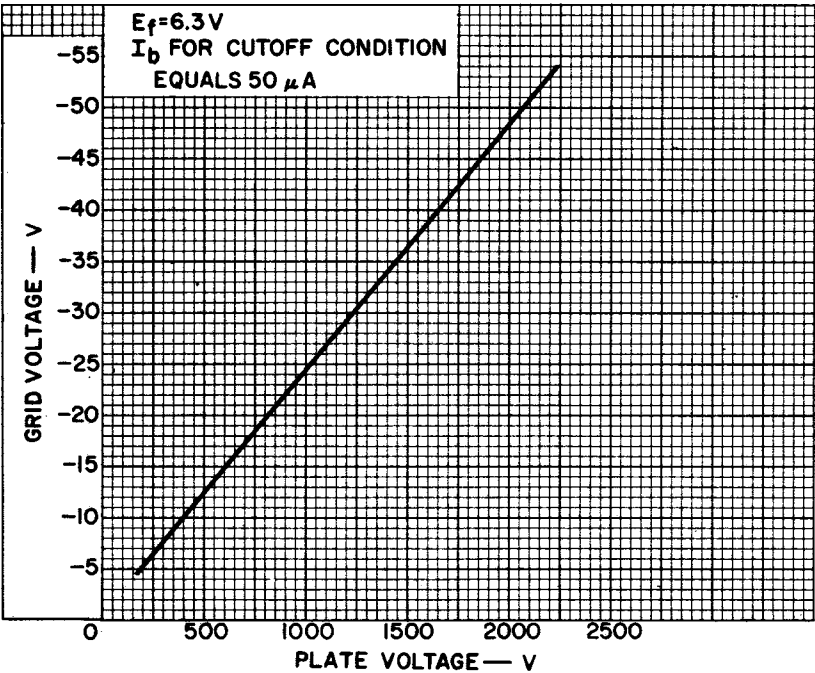
Note 3: The axes of the cathode cylinder and grid flange will coincide within 0.005 inch.

Note 4: Pin diameter is slightly greater when pretinned.

← Indicates a change.

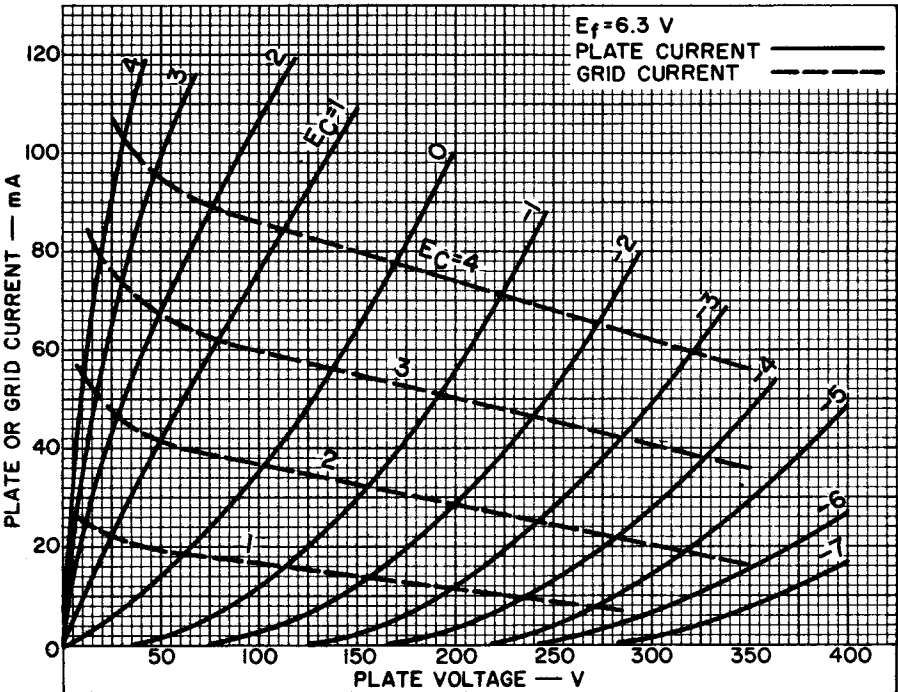


Plate-Current Cutoff Characteristic



92CS-13207

Average Plate and Grid Characteristics



92CS-13208R1



Average Constant-Current Characteristics in Cathode-Drive Service

