

PRELIMINARY TECHNICAL INFORMATION

These ratings represent those of current samples of this type. Refer to the Objective Technical Information sheet for design-objective ratings.

DEVELOPMENTAL
TYPE

ZP-1018
PTI-70
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This technical information is proprietary and is furnished only as a service to customers.

ZP-1018

Grid-Pulsed Service
Grounded-Grid Operation

Tetrode

Heat-Sink and Forced-Air Cooled
Metal and Ceramic

The ZP-1018 is a reduced-size heat-sink-cooled version of the GL-6283 especially designed for pulsed-amplifier or oscillator service at L-band frequencies. This tetrode is particularly well suited for use in air-borne radar equipment such as IFF transponders.

The tube is capable of providing useful output at frequencies up to approximately 1500 megacycles.

Features of the ZP-1018 include long life and reliability, long pulse width and high gain.

ELECTRICAL

	Minimum	Bogey	Maximum	
Heater Voltage*	—	6.3	—	Volts
Heater Current	—	3.8	—	Amperes
Cathode Heating Time	1	—	—	Minute
Direct Interelectrode Capacitances**				
Cathode to Plate †	—	.006	—	μμf
Input	—	20	—	μμf
Output	—	8.9	—	μμf

MECHANICAL

Mounting Position — Any	
Net Weight, approximately	9 Ounces

THERMAL

Cooling — Heat-sink and Forced-Air †	
Anode Temperature §, maximum	250 C
Seals	
Screen and Control Grid, approximate	1 Cubic Foot per Minute
Heater and Cathode, approximate	1 Cubic Foot per Minute
Ceramic Temperature at Any Point, maximum	200 C

RADIO-FREQUENCY POWER AMPLIFIER — CLASS C

Maximum Ratings

Pulsed Drive, 1250 Megacycles

DC Plate Voltage	3.5	Kilovolts
DC Plate Current, during pulse	5	Amperes
DC Grid-No. 2 Voltage	750	Volts
DC Grid-No. 2 Input	5	Watts
DC Grid-No. 1 Voltage	—200	Volts
Plate Dissipation	150	Watts
Pulse Width ∇◇	15	Microseconds
Duty Factor ∇φ	.02	

Typical Operation

Grounded-Grid Service at 1100 Megacycles, 1/4 λ Output Circuit

DC Plate Voltage	2.5	2.5	Kilovolts
DC Plate Current, during pulse	1.4	1.0	Amperes

The specifications of this type are subject to change. Delivery of samples and the existence of these data do not imply continued availability of types with the same characteristics or dimensions. For the most recent information concerning the status of this device, please consult your local Power Tube Department Regional Sales Office.

RADIO-FREQUENCY POWER AMPLIFIER - CLASS C (CONT'D)

Typical Operation (Cont'd)

DC Grid-No. 2 Voltage	600	600	Volts
DC Grid-No. 2 Current, during pulse	50	0	Milliamperes
DC Grid-No. 1 Voltage	-70	-70	Volts
DC Grid-No. 1 Current, during pulse	90	80	Milliamperes
Driving Power at the Tube, during pulse	165	95	Watts
Power Output, during pulse (useful)	1.6	1.0	Kilowatts
Pulse Width	6	6	Microseconds
Duty Factor	.02	.02	

* Under the typical operating conditions shown the filament voltage should be reduced to approximately 6.0 volts because of back-heating resulting from transit time effects.

** Control grid connected directly to screen grid.

† Complete external shielding between cathode and plate.

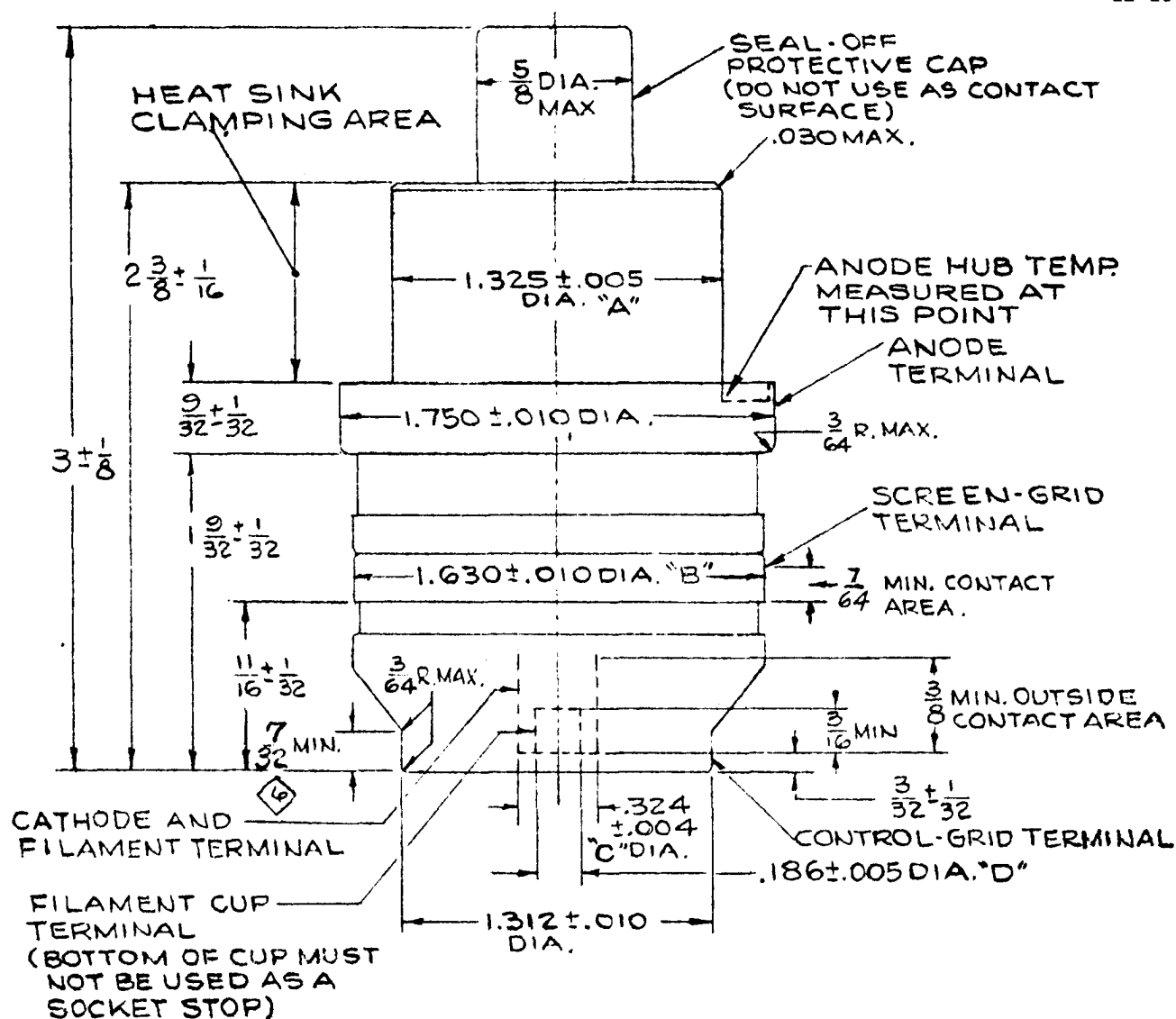
‡ Forced-air cooling should be applied during the application of any voltages.

§ A suitable heat-sink clamping arrangement must be provided to limit the anode hub temperature to the value specified; the temperature is measured at the point indicated on the outline drawing.

♥ For applications that require longer pulses or higher duty refer to the tube manufacturer for recommendations.

◇ Pulse duration is measured between points at 70 percent of the peak value. The peak value is defined as the maximum value of a smooth curve through the average of the fluctuations over the top portion of the pulse.

φ Maximum ratio of on-time to elapsed time during any 7.5 millisecond period.



CONCENTRICITIES:

The following total indicator readings are measured with respect to a centerline determined by the centers of the anode terminal and control grid terminal.

Diameter A - 0.030 inches
Diameter B - 0.016 inches
Diameter C - 0.036 inches
Diameter D - 0.042 inches

Total indicator reading of filament cup terminal diameter (D) measured with respect to center of cathode and filament terminal diameter (C) - 0.016 inches.

TUBE DEPARTMENT
GENERAL  ELECTRIC
Owensboro, Kentucky