GENERAL ELECTRIC
POWER TUBE DEPARTMENT
Schenectady 5, N. Y.

PRELIMINARY
TECHNICAL INFORMATION

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

ZP-1025

TRIODE

Internal Feedback for Oscillator Service
Grounded-Grid Operation

Heat-Sink and Forced-Air Cooled
Metal and Ceramic

The ZP-1025 is a heat-sink-cooled triode especially designed for pulsed oscillator service in L-band. This tube is particularly well suited for use in airborne radar equipment such as IFF transponders.

The tube features internal feedback which eliminates the need for the complicated external circuit arrangements normally required in oscillator service.

Other features include small size, long pulse width capability, long life and reliability.

ELECTRICAL	Minimum	Bogey	Maximum	
Heater Voltage*	–	6.3	–	Volts
Heater Current	3.5	3.8	4.0	Amperes
Cathode Heating Time	1	–	–	Minute
Direct Interelectrode Capacitances				
Cathode to Plate	–	0.45	–	μμf
Input	–	15.5	–	μμf
Output	–	5.9	–	μμf

MECHANICAL

Mounting Position – Any
Net Weight, approximately ..... 3 1/4 Ounces

THERMAL

Cooling – Heat-Sink and Forced-Air

Anode Temperature §	250	C
Ceramic Temperature at Any Point, maximum	200	C

PLATE-PULSED OSCILLATOR-CLASS C

Maximum Ratings

DC Plate Voltage, During Pulse	6.0	Kilovolts
DC Plate Current, During Pulse	10.0	Amperes
DC Grid Voltage, During Pulse	−400	Volts
DC Grid Current, During Pulse	5.0	Amperes
Plate Dissipation §	110	Watts
Pulse Width ♦	10	Microseconds
Duty Factor ϕ	0.001	

Typical Operation

Grounded-Grid Service at 1300 Megacycles, ¾ λ Output Circuit

DC Plate Voltage, During Pulse	6.0	Kilovolts
DC Plate Current, During Pulse	7.0	Amperes
DC Grid Current, During Pulse (Grid Resistor = 50 Ohms)	4.3	Amperes
Power Output, During Pulse (Useful)	24.0	Kilowatts
Pulse Width	10	Microseconds
Duty Factor	0.001	

GRID-PULSED OSCILLATOR-CLASS C

Maximum Ratings

DC Plate Voltage	2.5	Kilovolts
DC Plate Current, During Pulse	3.0	Amperes
DC Grid Voltage	−200	Volts
Plate Dissipation	110	Watts
Pulse Width♦	15	Microseconds
Duty Factor ϕ	0.02	

Typical Operation

Grounded-Grid Circuit at 1100 Megacyles, ¼ λ Output

DC Plate Voltage	1750	1950	2200	Volts
DC Plate Current, During Pulse	2.2	2.6	2.7	Amperes
DC Grid Voltage Supply**	−97	−104	−104	Volts
DC Grid Current, During Pulse	1.05	1.2	1.25	Amperes
Power Output, During Pulse (Useful)	1.5	2.0	2.4	Kilowatts
Pulse Width	10	10	10	Microseconds
Duty Factor	.02	.02	.02	

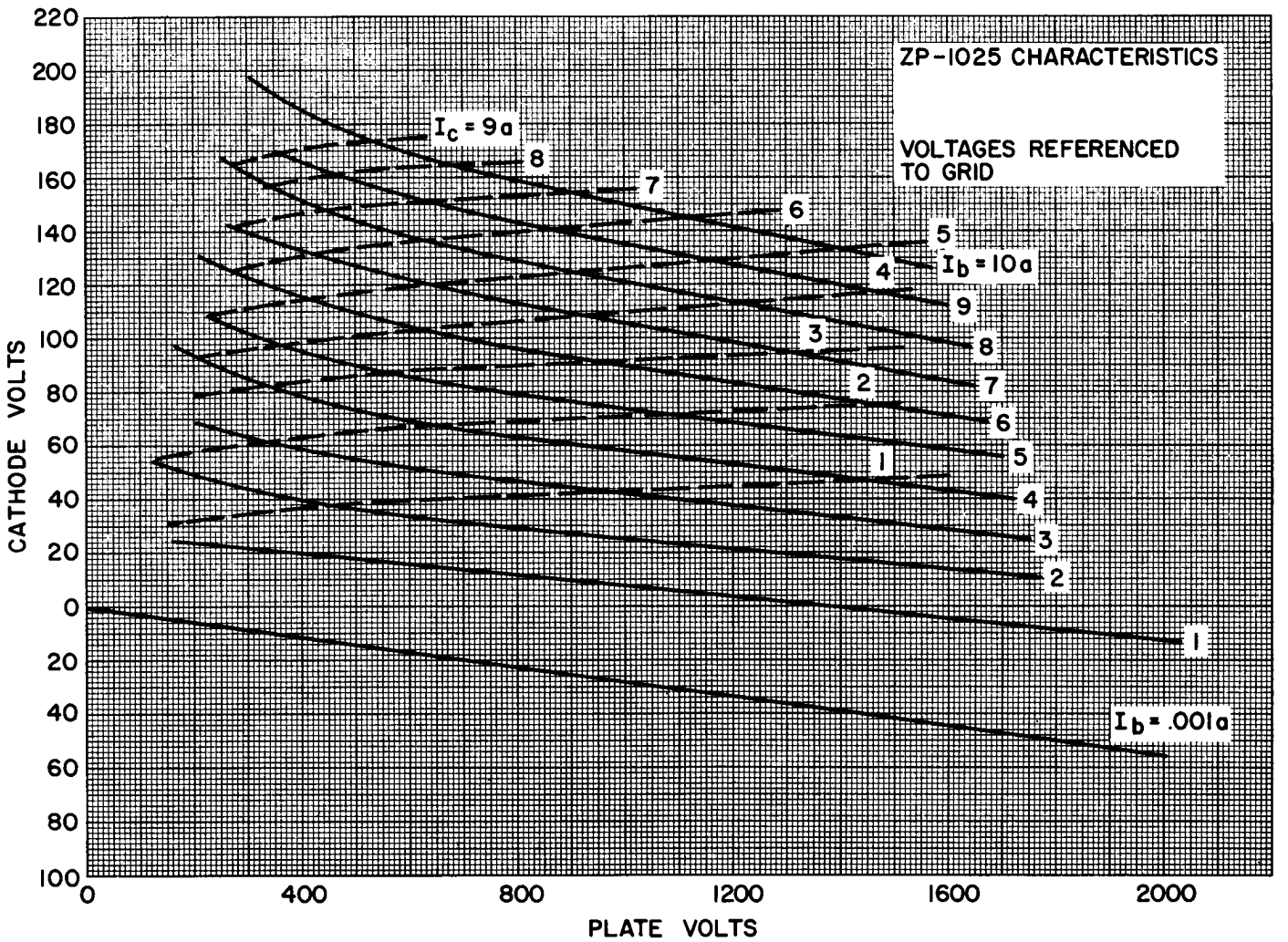
* Because of back-heating due to transit time effects, it may be necessary to reduce the heater voltage. For the 1100 mcs, 2 kw, .02 duty condition, the typical heater voltage is 5.5 volts.

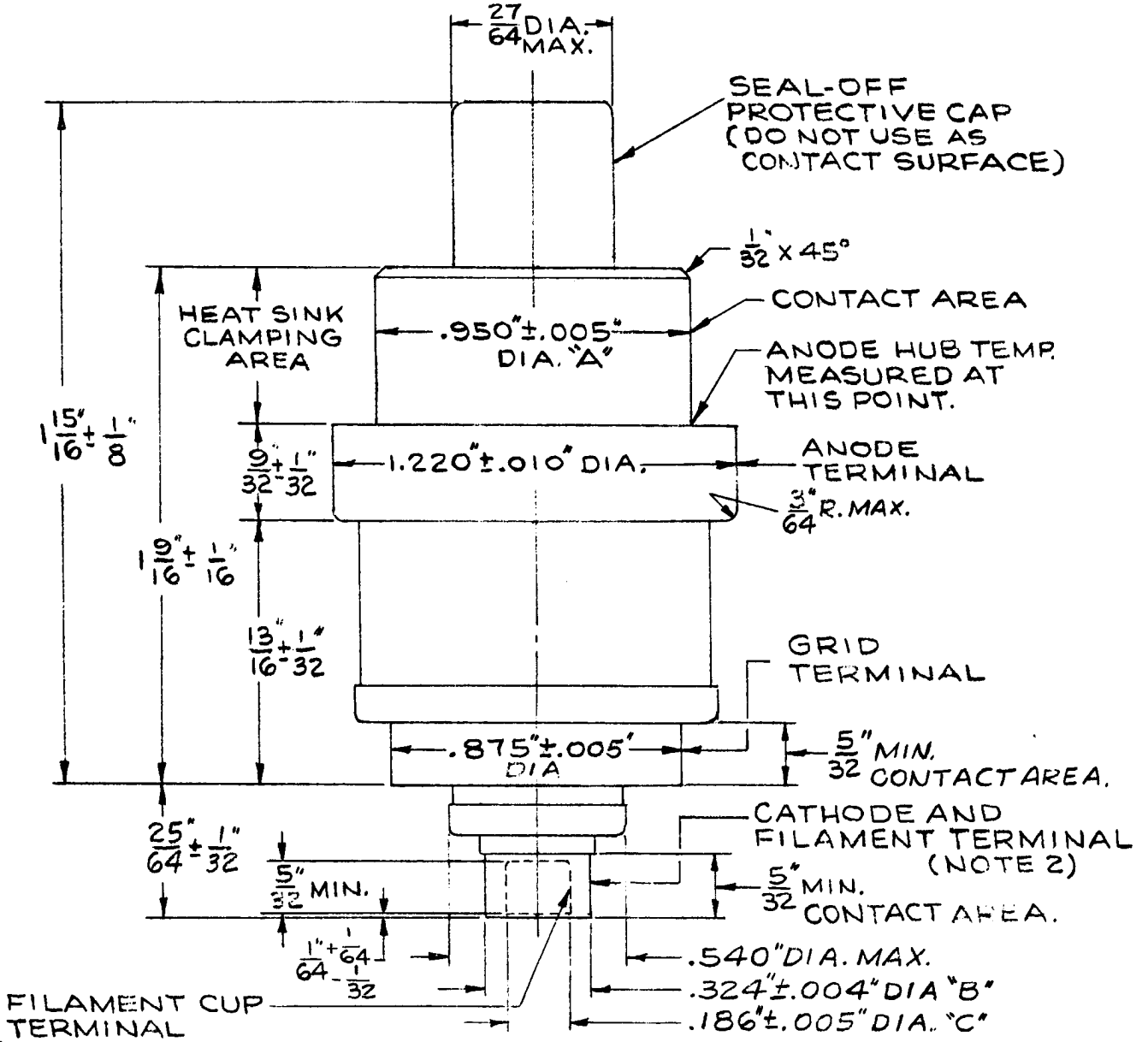
§ A suitable heat-sink clamping arrangement must be provided to limit the anode hub temperature to the value specified.

◊ 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 1-millisecond period.

** With a series grid resistance of 50 ohms.





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 - 0.036 inches
Diameter C - 0.042 inches

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

TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky