

—PRODUCT INFORMATION—

7815R

Planar Triode

The 7815R is a high- μ , ceramic-and-metal, planar triode designed for use as a grid-pulsed or plate-pulsed oscillator, frequency multiplier, or power amplifier at frequencies up to 3000 megacycles.

GENERAL

ELECTRICAL	MECHANICAL
Cathode - Coated Unipotential	Operating Position - Any
Heater Characteristics and Ratings	Cooling - Conduction and Convection
Heater Voltage, AC or DC * Volts	Net Weight, approximate. 2.5 Ounces
Heater Current† 1.0 Amperes	Maximum Anode Temperature 250 C
Direct Interelectrode Capacitances‡	
Grid to Plate: (g to p) 2.05 pf	
Grid to Cathode: (g to k). 6.3 pf	
Plate to Cathode: (p to k),	
Maximum 0.035 pf	

MAXIMUM RATINGS AND TYPICAL OPERATION

PLATE-PULSED OSCILLATOR OR AMPLIFIER—CLASS C

MAXIMUM RATINGS—ABSOLUTE-MAXIMUM VALUES

Peak Pulse Plate-Supply Voltage.	3500	Volts
Pulse Length	6	Microseconds
Duty Factor	0.0033	
Negative DC Grid Voltage	150	Volts
Positive Peak Grid Voltage	250	Volts
Negative Peak Grid Voltage	750	Volts
Plate Dissipation	10 ^m	Watts
Grid Dissipation.	2.0	Watts
Average Plate Current	10	Milliamperes
Peak Plate Current	3.0	Amperes
Average Grid Current	5.0	Milliamperes
Frequency	3000	Megacycles

TYPICAL OPERATION—OSCILLATOR AT 2500 MEGACYCLES

Heater Voltage	5.8	Volts
Peak Plate-Supply Voltage.	3500	Volts
Pulse Length	5	Microseconds
Duty Factor	0.0030	
Peak Plate Current	3.0	Amperes
Average Plate Current	9.0	Milliamperes
Average Grid Current	3.0	Milliamperes
Peak Useful Power Output, approximate.	2000	Watts

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an

express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.



MAXIMUM RATINGS AND TYPICAL OPERATION (Continued)**GRID-PULSED OSCILLATOR OR AMPLIFIER—CLASS C****MAXIMUM RATINGS—ABSOLUTE-MAXIMUM VALUES**

DC Plate Voltage	2000	Volts
Pulse Length	6	Microseconds
Duty Factor	0.0033	
Negative DC Grid Voltage	150	Volts
Positive Peak Grid Voltage	250	Volts
Negative Peak Grid Voltage	750	Volts
Plate Dissipation	10 [†]	Watts
Grid Dissipation	2.0	Watts
Average Plate Current	10	Milliamperes
Peak Plate Current	3.0	Amperes
Average Grid Current	5.0	Milliamperes
Frequency	3000	Megacycles

TYPICAL OPERATION—AMPLIFIER AT 1100 MEGACYCLES

Heater Voltage	6.0	Volts
DC Plate Voltage	1700	Volts
DC Grid Voltage	-45	Volts
Pulse Length	3.5	Microseconds
Duty Factor	0.001	
Peak Plate Current	1.9	Amperes
Peak Grid Current	1.1	Amperes
Driving Power during Pulse, approximate	400	Watts
Peak Useful Power Output, approximate	1500	Watts

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of

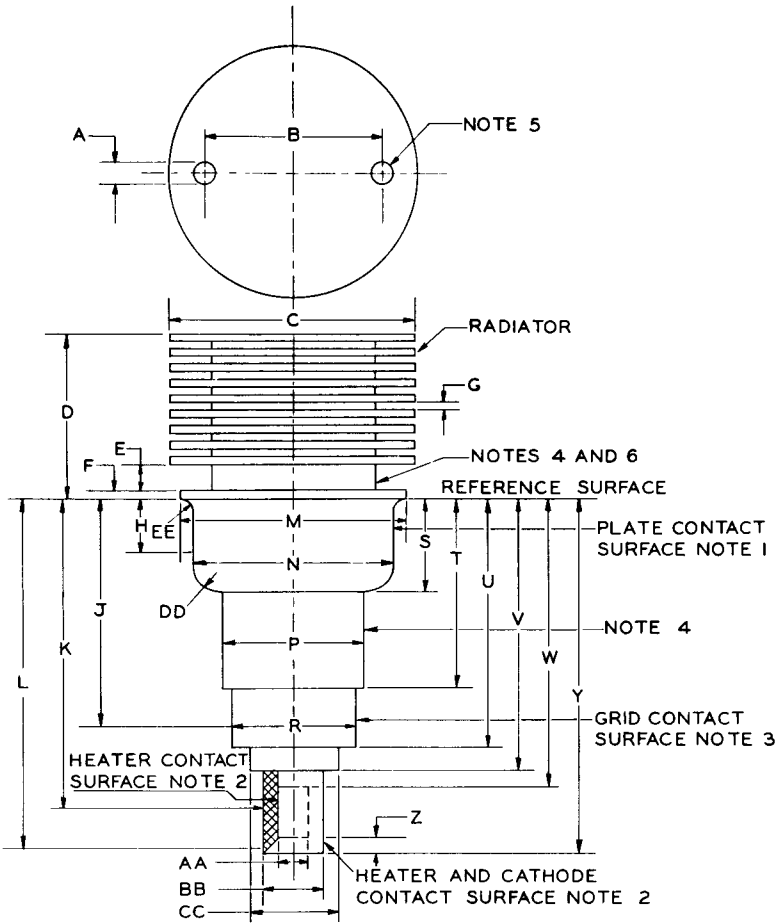
all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

NOTES

- * The equipment designer should design the equipment so that heater voltage is centered at some value within the range of 5.0 to 6.0 volts. Heater voltage variations about the center value should be kept as small as practical and should not, in any case, exceed $\pm 5\%$. The optimum center value of heater voltage depends on the cathode current and on other parameters of circuit design and operation. For specific recommendations, contact your General Electric tube sales representative.
- ‡ Heater current of a bogey tube at $E_f = 6.0$ volts.
- § Measured without heater voltage.
- ¶ Plate dissipation of 100 watts is permissible with forced-air cooling.

PHYSICAL DIMENSIONS



DIMENSIONS FOR OUTLINE (INCHES)

Ref.	Inches	
	Minimum	Maximum
A	0.105	0.145
B	0.650	0.850
C	1.234	1.264
D	0.766	0.826
E	0.125	0.185
F	---	0.040
G	0.025	0.046
M	1.180	1.195
N	1.025	1.035
P	0.752	0.792
R	0.655	0.665
S	0.462	0.477
T	0.970	1.010
U	1.289	1.329
V	---	1.475
W	---	1.534
Y	1.815	1.875
Z	---	0.086
AA	0.213	0.223
BB	0.315	0.325
CC	---	0.545

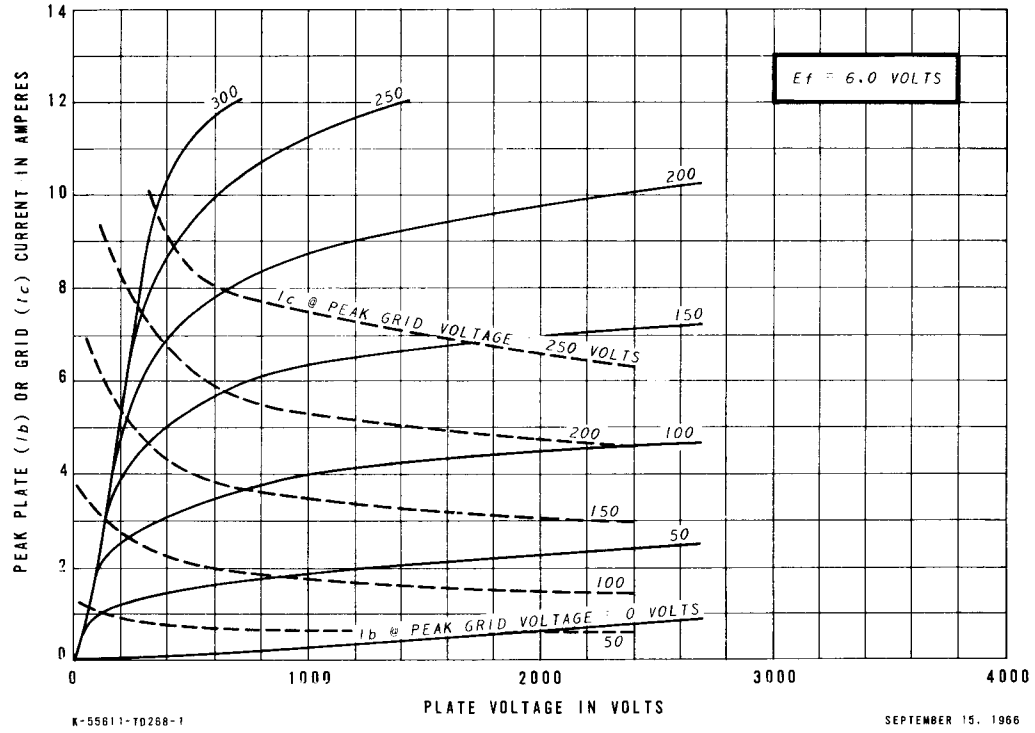
DIMENSIONS FOR ELECTRODE CONTACT AREA (INCHES)

Ref.	Dimension	Contact
H	0.198±0.163	Plate
J	1.225±0.040	Grid
K	1.631±0.097	Heater
L	1.645±0.170	Cathode

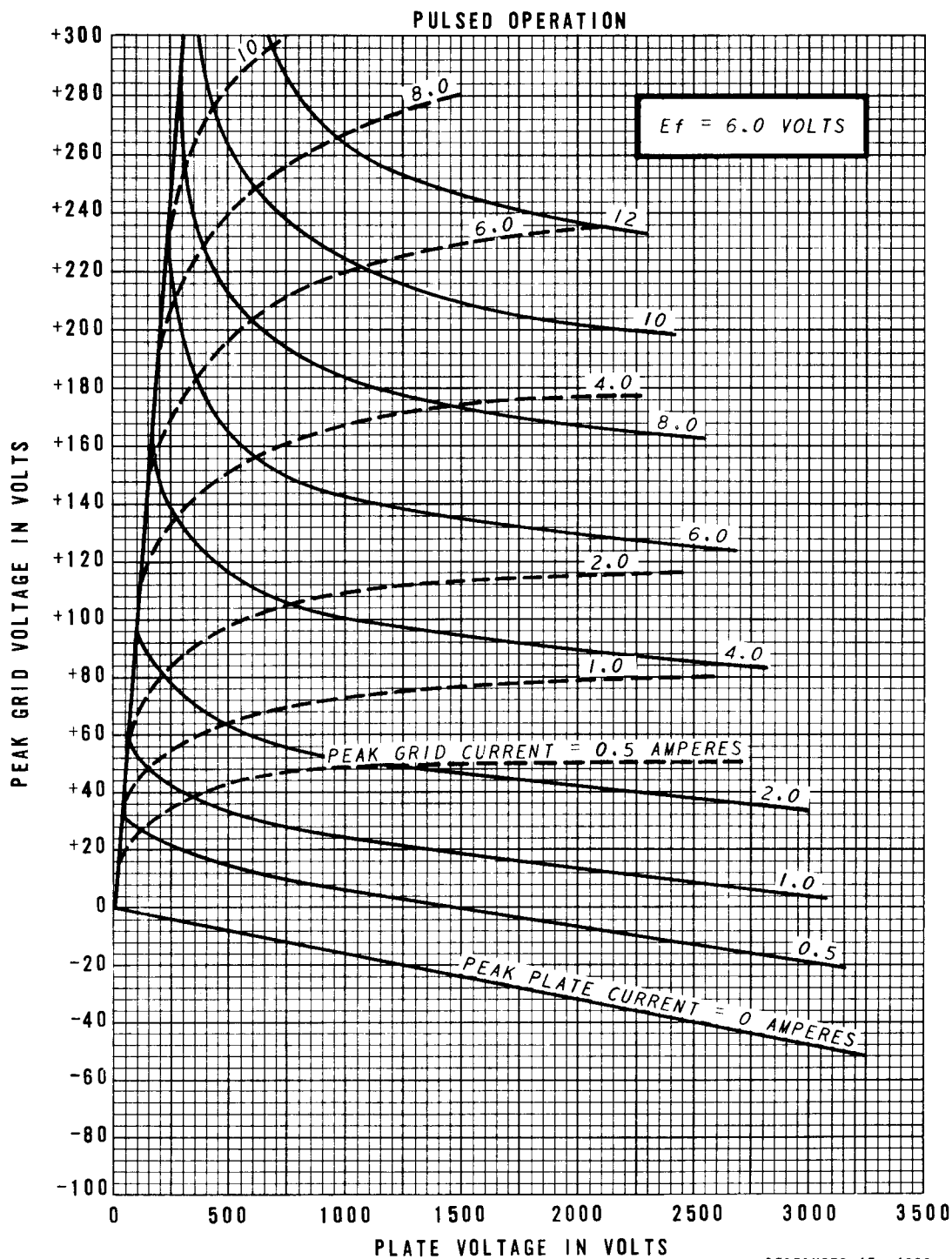
NOTES

1. The total indicated runout of the plate contact surface with respect to the cathode contact surfaces will not exceed 0.020 inch.
2. The total indicated runout of the cathode contact surface with respect to the heater contact surfaces will not exceed 0.012 inch.
3. The total indicated runout of the grid contact surface with respect to the cathode contact surface will not exceed 0.020 inch.
4. Do not clamp or locate on this surface.
5. Hole provided for tube extractor through the top fin only.
6. Measure plate shank temperature on this surface.

AVERAGE PLATE CHARACTERISTICS



AVERAGE CONSTANT-CURRENT CHARACTERISTICS



TUBE DEPARTMENT
GENERAL  **ELECTRIC**
Owensboro, Kentucky