ELECTRONIC INNOVATIONS IN ACTION

MICROWAVE DEVICES

—PRODUCT INFORMATION—

Planar Triode

7911

FOR PLATE-PULSED OSCILLATOR OR AMPLIFIER APPLICATIONS

The 7911 is a high-mu triode of ceramic and metal planar construction intended for use as a plate-pulsed oscillator or amplifier at frequencies up to 6000 megahertz.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC★	6.3 ± 0.3	Volts
Heater Current●	0.55	Amperes
Direct Interelectrode Capacitances♦		
Grid to Plate: (g to p)	1.4	pf
Input: g to (h + k)	5.0	pf
Output: p to (h + k)	0.05	pf

MECHANICAL

Operating Position - Any

See Outline Drawing on page 3 for dimensions and electrical connections

MAXIMUM RATINGS

PLATE-PULSED OSCILLATOR OR AMPLIFIER SERVICE—ABSOLUTE-MAXIMUM VALUES

Cathode Heating Time, minimum	60	Seconds
Peak Positive-Pulse Plate Supply Voltage	3000	Volts
Duty Factor of Plate Pulse■▲	0.001	
Pulse Duration	2.0	Microseconds
Plate Current		
Average▲	2.5	Milliamperes
Average During Plate Pulse□	2.5	Amperes
Negative Grid Voltage		
Average During Plate Pulse	100	Volts
Grid Current		
Average▲	1.0	Milliamperes
Average During Plate Pulse	1.0	Amperes
Cathode Current		
Average▲	3.0	Milliamperes
Average During Plate Pulse□	3.0	Amperes
Plate Dissipation▲	6.5	Watts
Peak Heater-Cathode Voltage		
Heater Positive with respect to Cathode	50	Volts
Heater Negative with respect to Cathode	50	Volts
Envelope Temperature at Hottest Point	250	C

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

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

GENERAL ELECTRIC

Supersedes PI Sheet dated 12-68

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	200	Volts
Cathode-Bias Resistor	100	Ohms
Amplification Factor	58	
Plate Resistance, approximate	2300	Ohms
Transconductance	25000	Micromhos
Plate Current	23	Milliamperes
Grid Voltage, approximate		
Ib = 100 Microamperes	-5	Volts

PLATE-PULSED OSCILLATOR SERVICE

Frequency	4100	MHz
Heater Voltage	6.3	Volts
Duty Factor	0.001	
Pulse Duration	1.0	Microseconds
Pulse Repetition Rate	1000	Pulses per Second
Peak Positive-Pulse Supply Voltage	3000	Volts
Plate Current		
Average	2.5	Milliamperes
Average During Plate Pulse	2.5	Amperes
Grid Current		
Average	0.3	Milliamperes
Average During Plate Pulse	0.3	Amperes
Useful Power Output		
Average	2.2	Watts
Average During Plate Pulse	2.2	Kilowatts

NOTES

★ The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

● Heater current of a bogey tube at Ef = 6.3 volts.

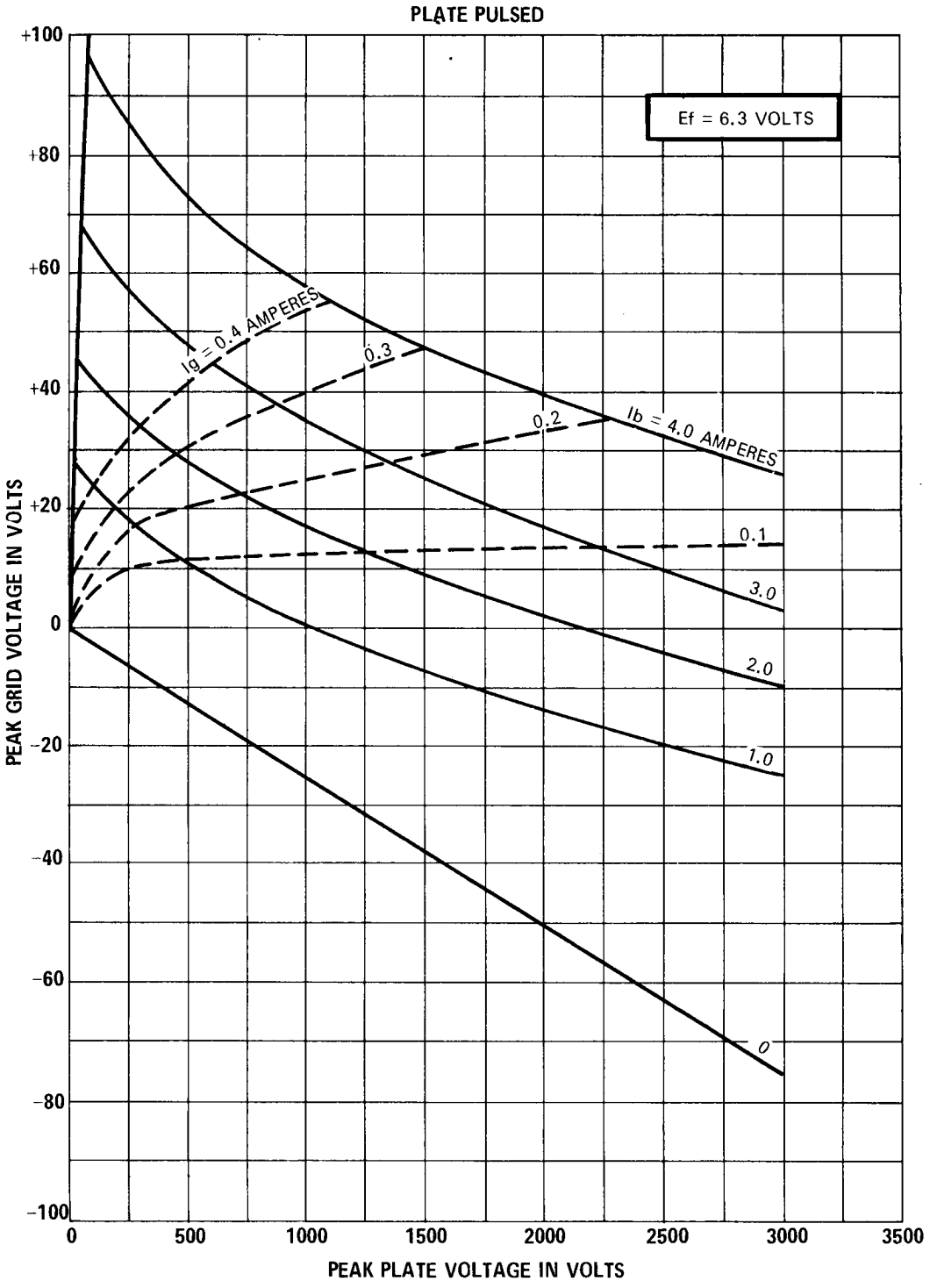
♦ Measured using a grounded adapter that provides shielding between external terminals of the tube.

■ Applications with a duty factor greater than 0.001 should be referred to your General Electric tube sales representative for recommendation.

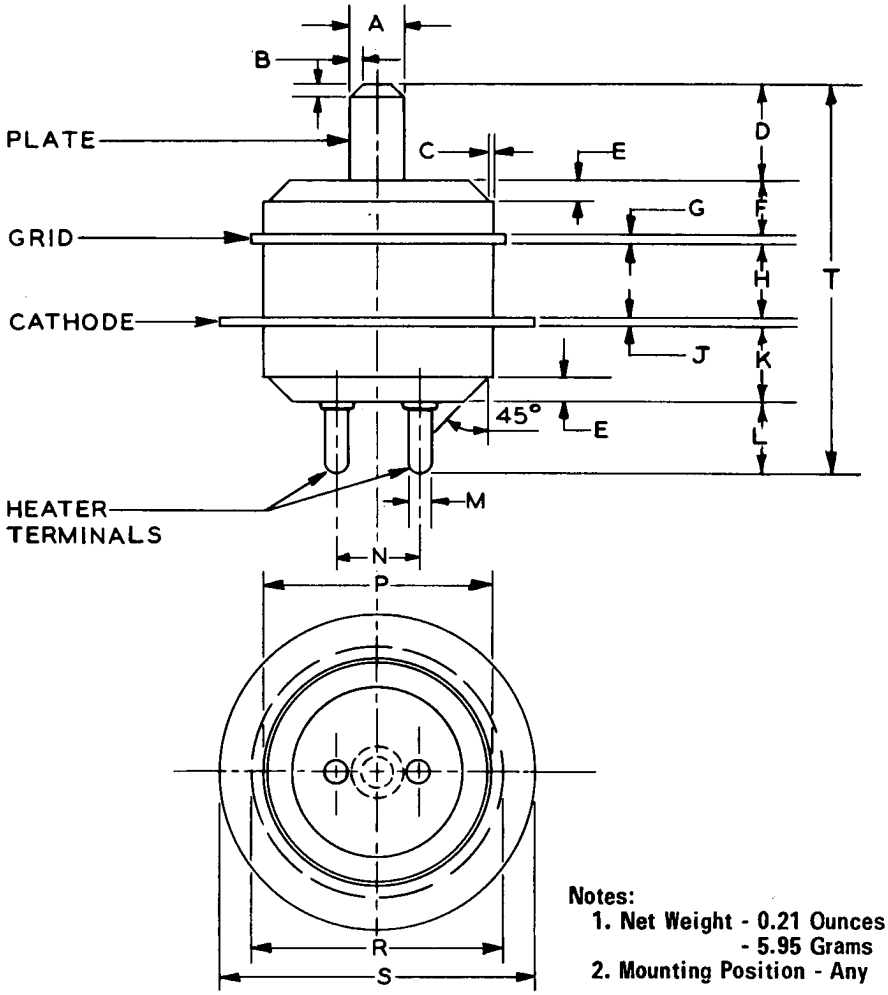
▲ In any 5000 microsecond interval.

□ The regulation and/or series plate-supply impedance must be such as to limit the peak current, with the tube considered a short circuit, to a maximum of 25 amperes.

AVERAGE CONSTANT-CURRENT CHARACTERISTICS



PHYSICAL DIMENSIONS



Notes:
1. Net Weight - 0.21 Ounces
- 5.95 Grams
2. Mounting Position - Any

Ref.	INCHES			MILLIMETERS		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.122	0.125	0.128	3.099	3.175	3.251
B	---	0.030	---	---	0.762	---
C	---	0.005	---	---	0.127	---
D	0.220	0.225	0.230	5.588	5.715	5.842
E	0.040	0.050	0.060	1.016	1.270	1.524
F	0.120	0.125	0.130	3.048	3.175	3.302
G	0.025	0.028	0.031	0.635	0.711	0.787
H	0.167	0.172	0.177	4.242	4.369	4.496
J	0.025	0.028	0.031	0.635	0.711	0.787
K	0.170	0.175	0.180	4.318	4.445	4.572
L	0.170	0.175	0.180	4.318	4.445	4.572
M	0.047	0.050	0.053	1.194	1.270	1.346
N	0.185	0.200	0.215	4.699	5.080	5.461
P	0.535	0.550	0.565	13.59	13.97	14.35
R	0.598	0.603	0.608	15.19	15.32	15.44
S	0.748	0.753	0.758	19.00	19.13	19.25
T	0.897	0.928	0.959	22.78	23.57	24.36

TUBE PRODUCTS DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky 42301