



**ELECTRONIC
INNOVATIONS**
IN ACTION

MICROWAVE DEVICES

— PRODUCT INFORMATION —

Y-1541

Development Type *

Planar Triode

The Y-1541 is a high-mu triode of ceramic and metal construction intended for use as a grid-pulsed oscillator or amplifier at frequencies up to 6000 megahertz. The rugged bonded-heater construction provides fast cathode warm-up.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Minimum	Bogey	Maximum	Units	Test Conditions				
					Ef V	Eb V	Ib Ma	RL Ohms	Rk Ohms
Heater Voltage, AC or DC •	6.0	6.3	6.6	Volts					
Heater Current	---	610	---	Milliamperes	6.3	---	---	---	---
Plate Current	---	23	---	Milliamperes	6.3	200	---	---	100
Amplification Factor	---	58	---		6.3	200	---	---	100
Transconductance	---	22000	---	Micromhos	6.3	200	---	---	100
Direct Interelectrode Capacitances †									
Grid to Plate: (g to p)	---	1.5	---	pf					
Input: g to (h+k)	---	4.8	---	pf					
Output: p to (h+k)	---	0.05	---	pf					
Cathode Warm-up Time §	---	---	4	Seconds					

GRID-PULSED OSCILLATOR SERVICE

Frequency	4300	Megahertz
Duty Factor	0.001	
Pulse Duration	1	Microsecond
Pulse Repetition Rate	1000	Pulses Per Second
Plate Supply Voltage	1150	Volts
DC Grid Voltage	-40	Volts
Plate Current: Average During Pulse	1.5	Amperes
Grid Current: Average During Pulse	0.5	Amperes
Power Output: Average During Pulse	400	Watts

NOTES

- * Both electrical and mechanical characteristics of development types are subject to change; therefore it is recommended that designers consult their General Electric field representative before designing equipment around developmental types.
- 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. In some applications, longer tube life may be obtained at reduced heater voltage. For specific recommendations, contact your General Electric sales representative.
- † Measured at 450 KHz using a grounded adapter that provides shielding between external terminals of tube.
- § Time required for plate current to reach 80 percent of its steady-state value.

GENERAL ELECTRIC

Supersedes PI Sheet dated 10-68

ABSOLUTE-MAXIMUM RATINGS

GRID-PULSED OSCILLATOR OR AMPLIFIER SERVICE

Plate Supply Voltage.....	1200	Volts
Pulse Duration.....	2	Microseconds
Duty Factor.....	0.001	
Plate Current: Average During Pulse †.....	1.5	Amperes
Negative DC Grid Voltage.....	100	Volts
Grid Current: Average During Pulse.....	0.5	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
Temperature Differential Between Two Adjacent Electrodes □.....	75	°C
Mechanical Vibration (20-2000 Hz Sinusoidal).....	30	G Peak

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.

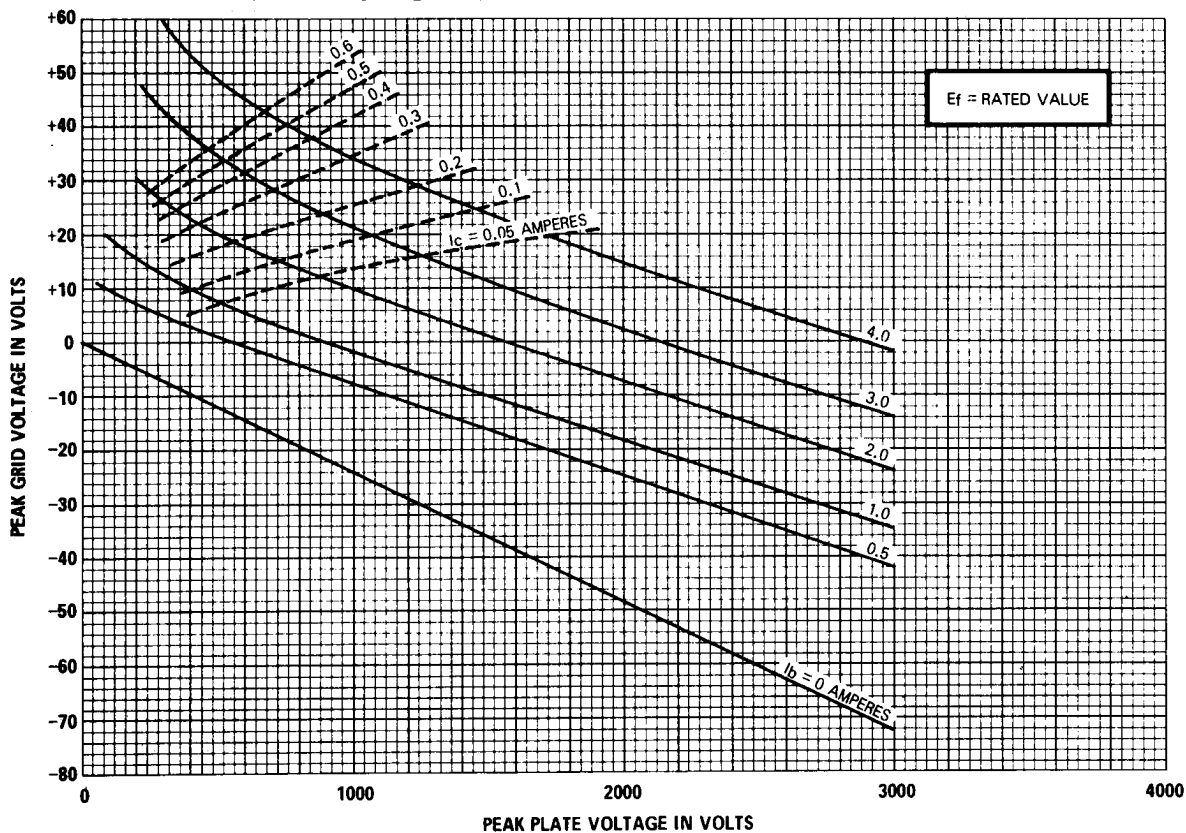
NOTES

- † 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 10 times the maximum plate current rating.
- ▲ For specific recommendations concerning higher temperature operation, contact your General Electric sales representative.
- This assumes no thermal heat sinking to any insulator.

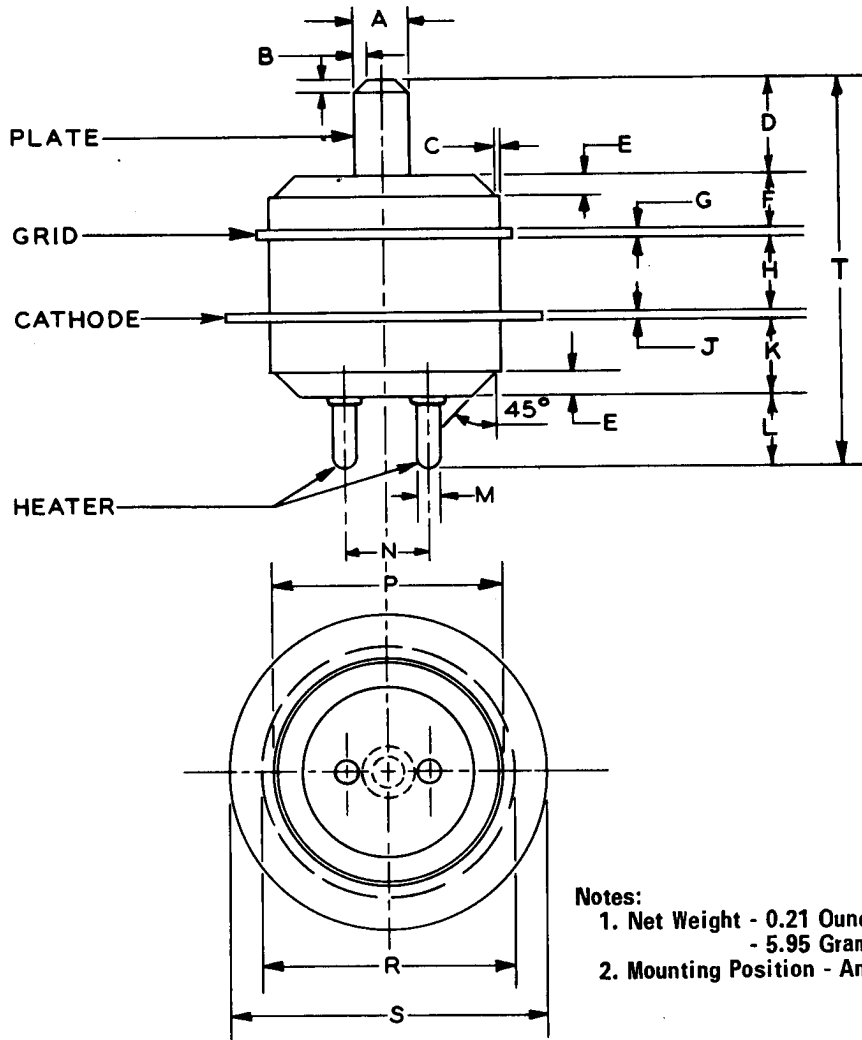
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absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of these devices with other devices or elements by any purchaser or others.

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

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