ELECTRONIC INNOVATIONS IN ACTION

MICROWAVE DEVICES

—PRODUCT INFORMATION—

Planar Triode

Y-1763

Development Type ⋆

The Y-1763 is a planar ceramic triode with exceptionally large cathode area. This results in the ability to develop high values of peak power at lower current densities resulting in longer tube life. The ability to dissipate large amounts of heat produces high power capabilities under high duty pulsed and CW conditions.

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●	12.0	12.6	13.2	Volts					
Heater Current	---	1.53	---	Amperes	12.6	---	---	---	---
Plate Current	---	90	---	Milliamperes	12.6	500	---	---	22
Amplification Factor	---	150	---		12.6	500	---	---	22
Transconductance	---	65000	---	Micromhos	12.6	500	---	---	22
Grid Voltage, Cutoff	---	−24	---	Volts	12.6	2500	1	47000	1000
Direct Interelectrode Capacitances♦									
Grid to Plate (g to p)	---	4.7	---	pf					
Input: g to (h+k)	---	20	---	pf					
Output: p to (h+k)	---	.06	---	pf					
Cathode Heating Time	15	---	---	Seconds					

CATHODE-PULSED AMPLIFIER SERVICE

Frequency	500	Megahertz
Duty Factor	0.002	
Pulse Duration	0.033	Microsecond
Pulse Repetition Rate	67000	Pulses Per Second
Peak Positive-Pulse Supply Voltage	2500	Volts
Plate Current: Average During Pulse	10	Amperes
Grid Current: Average During Pulse	3.4	Amperes
Power Output: Average During Pulse	10,000	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.

ABSOLUTE-MAXIMUM RATINGS

GRID/CATHODE-PULSED OSCILLATOR OR AMPLIFIER SERVICE

Plate Voltage	2500	Volts
Plate Dissipation▲	200	Watts
Peak Cathode Current	15	Amperes
Peak Grid Current	4	Amperes
Duty Factor	0.005	
Pulse Duration	5	Microseconds
Envelope Temperature at Hottest Point⊕	250	°C
Temperature Differential Between Two Adjacent Electrodes□	100	°C
Mechanical Vibration (20-2000 Hz Sinusoidal)	30	G Peak

CW OSCILLATOR OR AMPLIFIER SERVICE

Plate Voltage	1500	Volts
Plate Dissipation▲	200	Watts
Average Cathode Current	500	Milliamperes
Average Grid Current	100	Milliamperes
Envelope Temperature at Hottest Point⊕	250	°C
Temperature Differential Between Two Adjacent Electrodes□	100	°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.

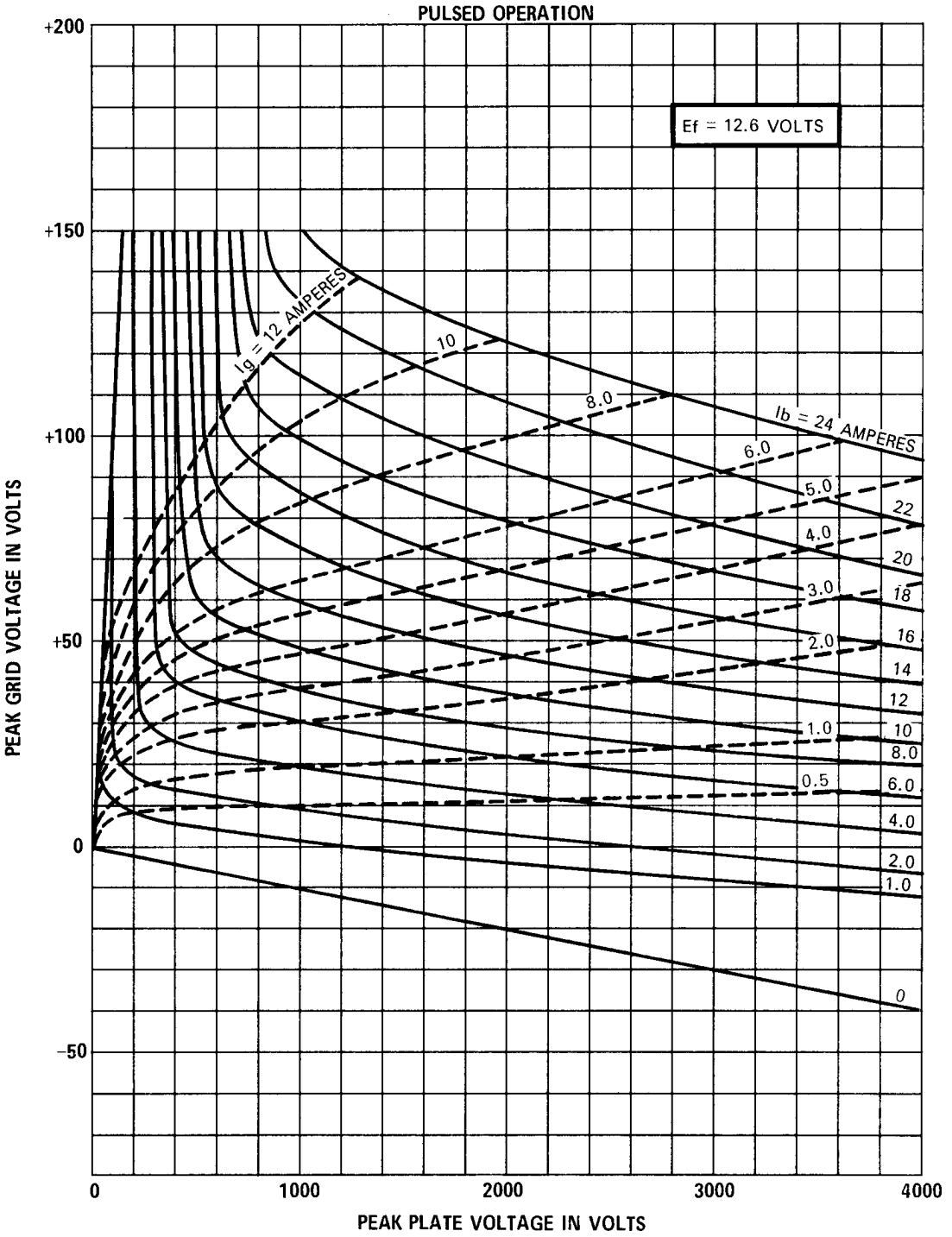
NOTES

▲ With adequate heat-sink attached to threaded plate stud.

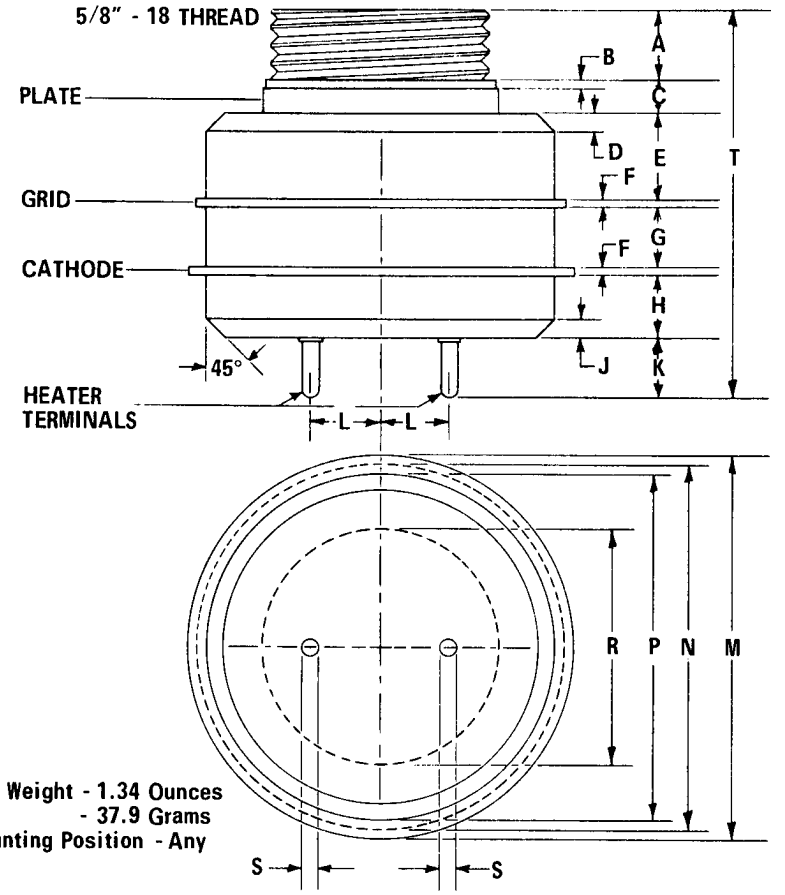
⊕ For specific recommendations concerning higher temperature operation, contact your General Electric sales representative.

□ This assumes no thermal heat sinking to any insulator.

AVERAGE CONSTANT-CURRENT CHARACTERISTICS



PHYSICAL DIMENSIONS



Notes:
1. Net Weight - 1.34 Ounces
   - 37.9 Grams
2. Mounting Position - Any

Ref.	INCHES			MILLIMETERS		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	---	0.225	---	---	5.715	---
B	---	0.025	---	---	0.635	---
C	---	0.075	---	---	1.905	---
D	---	0.075	---	---	1.905	---
E	---	0.250	---	---	6.350	---
F	---	0.025	---	---	0.635	---
G	---	0.175	---	---	4.445	---
H	---	0.175	---	---	4.445	---
J	---	0.050	---	---	1.270	---
K	---	0.175	---	---	4.445	---
L	---	0.200	---	---	5.080	---
M	---	1.100	---	---	27.94	---
N	---	1.050	---	---	26.67	---
P	---	1.000	---	---	25.40	---
R	---	0.675	---	---	17.15	---
S	---	0.050	---	---	1.270	---
T	---	1.125	---	---	28.58	---

GENERAL ELECTRIC
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