

Planar Triode

GE16411

The GE16411 is a high-mu-triode of ceramic-and-metal planar construction intended for use as an oscillator or radio-frequency power amplifier in the ultra-high-frequency range. This tube is especially suited for use where conditions of extreme mechanical shock, mechanical vibration, and high temperature are encountered. The rugged bonded-heater construction also provides fast cathode warm-up.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Minimum	Bogey	Maximum	Units	Test Conditions				
					Ef V	Eb V	Ib Ma	Eg V	Rk Ohms
Heater Voltage, AC or DC*	6.0	6.3	6.6	Volts					
Heater Current	138	150	162	Milliamperes	6.3	---	---	---	---
Plate Current	9.0	12.5	16	Milliamperes	6.3	150	---	---	82
Amplification Factor	50	75	100		6.3	150	---	---	82
Transconductance	9000	12500	---	Micromhos	6.3	100	---	0	---
Grid Voltage, Cutoff	---	-3.2	-5.8	Volts	6.3	150	---	---	---
Direct Interelectrode Capacitances •									
Grid to Plate: (g to p)	1.15	1.30	1.45	pf					
Input: g to (h+k)	1.20	1.50	1.80	pf					
Output: p to (h+k)	0.004	0.01	0.016	pf					
Cathode Warm-up Time ♦	---	---	5	Seconds					

UHF OSCILLATOR SERVICE

Frequency	450	1200	Megahertz
DC Plate Voltage	150	150	Volts
Grid Resistor	1000	1000	Ohms
Plate Current	8.0	8.0	Milliamperes
Grid Current	2.0	2.0	Milliamperes
Power Output	450	300	Milliwatts

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.
- Measured at 450 KHz using a grounded adapter that provides shielding between external terminals of tube.
- ♦ Time required for plate current to reach 80% of its steady-state value.

ABSOLUTE-MAXIMUM RATINGS

Plate Voltage	250	Volts
Positive DC Grid Voltage.....	0	Volts
Negative DC Grid Voltage	50	Volts
Plate Dissipation.....	1.0	Watts
DC Grid Current.....	2.2	Milliamperes
DC Cathode Current	11	Milliamperes
Peak Cathode Current	40	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	50	Volts
Heater Negative with Respect to Cathode	50	Volts
Grid Circuit Resistance	10000	Ohms
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

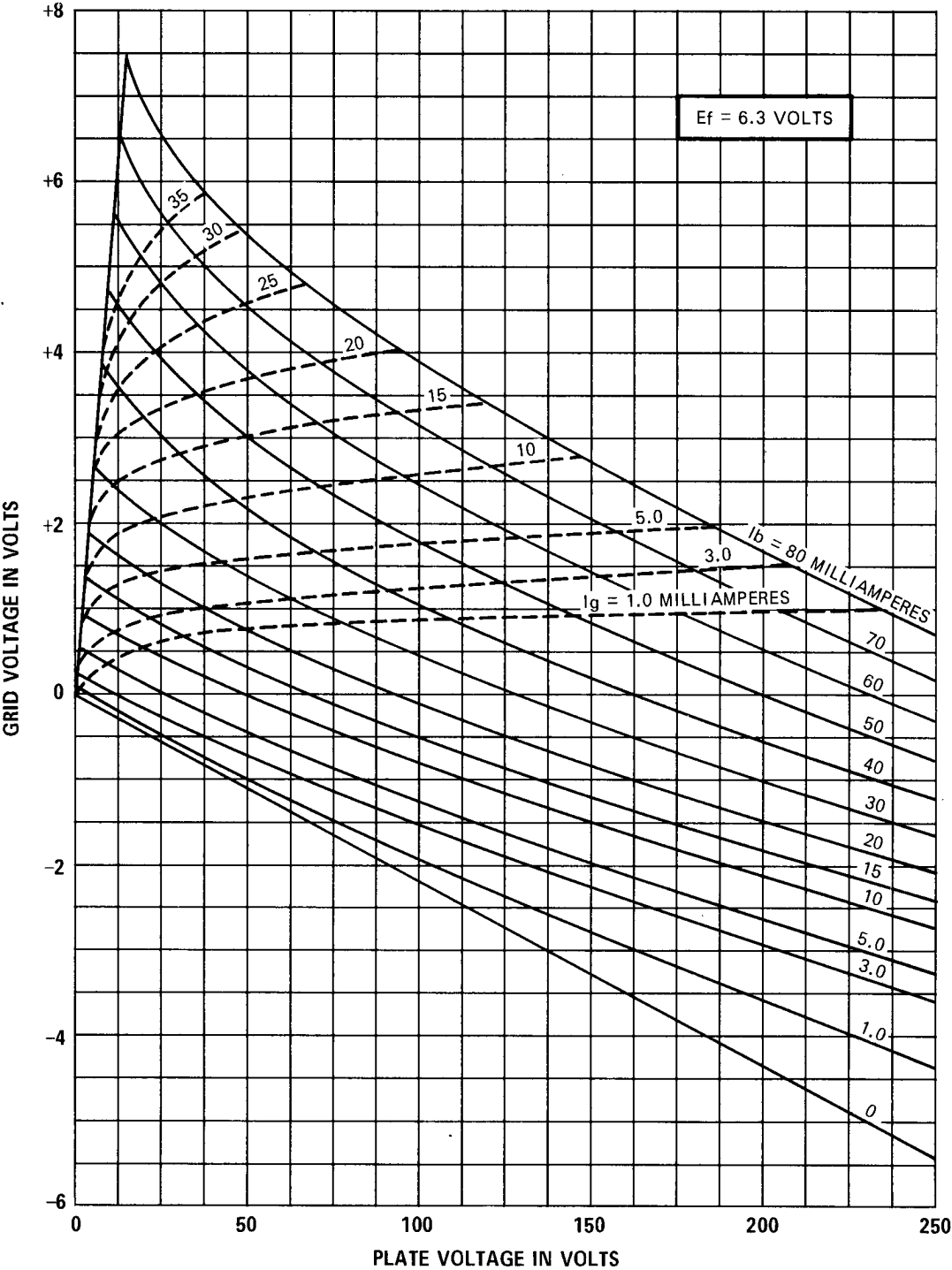
of all other electron devices in the equipment.

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.

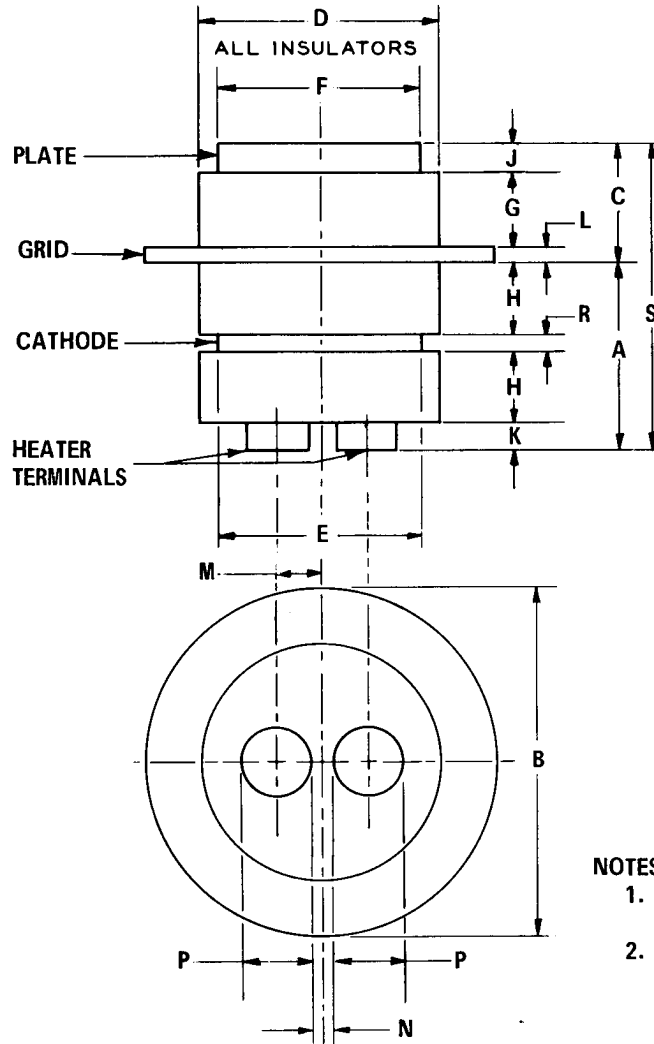
NOTES

- ▲ 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 - 0.0565 Ounces
- 1.6 Grams
- 2. Mounting Position - Any

	INCHES			MILLIMETERS		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.268	0.280	0.292	6.807	7.112	7.417
B	0.477	0.480	0.483	12.12	12.19	12.27
C	0.156	0.165	0.174	3.962	4.191	4.420
D	---	---	0.328	---	---	8.331
E	0.282	0.285	0.288	7.163	7.239	7.315
F	0.272	0.275	0.278	6.909	6.985	7.061
G	0.095	0.099	0.103	2.413	2.515	2.616
H	0.096	0.100	0.104	2.438	2.540	2.642
J	0.035	0.040	0.045	0.889	1.016	1.143
K	0.047	0.055	0.063	1.194	1.397	1.600
L	0.024	0.027	0.030	0.610	0.686	0.762
M	0.055	0.068	0.081	1.397	1.727	2.057
N	0.032	---	---	0.813	---	---
P	0.087	0.090	0.093	2.210	2.286	2.362
R	0.022	0.025	0.028	0.559	0.635	0.711
S	0.430	0.445	0.460	10.92	11.30	11.68

TUBE PRODUCTS DEPARTMENT



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