



**ELECTRONIC
INNOVATIONS
IN ACTION**

MICROWAVE DEVICES

Planar Triode

GE17241

**FOR PULSED OSCILLATOR
OR AMPLIFIER APPLICATIONS**

The GE17241 is a metal-ceramic triode intended for grid-pulsed or plate-pulsed oscillator and amplifier service. This tube was designed specifically for use in general aviation transponders.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential		
Heater Characteristics and Ratings		
Heater Voltage, AC or DC*	6.0±0.3	Volts
Heater Current•	0.97	Amperes
Direct Interelectrode Capacitances♦		
Grid to Plate: (g to p)	1.9	pf
Input: g to (h+k)	6.3	pf
Output: p to (h+k), Maximum	0.035	pf

MECHANICAL

Operating Position - Any

See Outline Drawing on page 4 for dimensions and electrical connections

MAXIMUM RATINGS

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

Plate Voltage	1750	Volts
Plate Dissipation▲	10	Watts
Peak Plate Current ■	2.0	Amperes
Peak Grid Current	1.0	Amperes
Duty Factor	0.01	
Pulse Duration	4	Microseconds
Envelope Temperature at Hottest Point	250	°C

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

Peak Positive-Pulse Plate Supply Voltage	2500	Volts
Plate Dissipation▲	10	Watts
Peak Plate Current	2.5	Amperes
Peak Grid Current	1.0	Amperes
Duty Factor	0.01	
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.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Heater Voltage	6.0	Volts
Plate Voltage	600	Volts
Grid Voltage (Vary for I_b @ 25 Milliamperes)	-5	Volts
Amplification Factor	95	
Transconductance	13500	Micromhos
Plate Current	25	Milliamperes
Grid Voltage, Maximum		
$I_b = 1.0$ Milliampere @ $E_b = 2000$ Volts	-50	Volts

GRID-PULSED RADIO-FREQUENCY AMPLIFIER

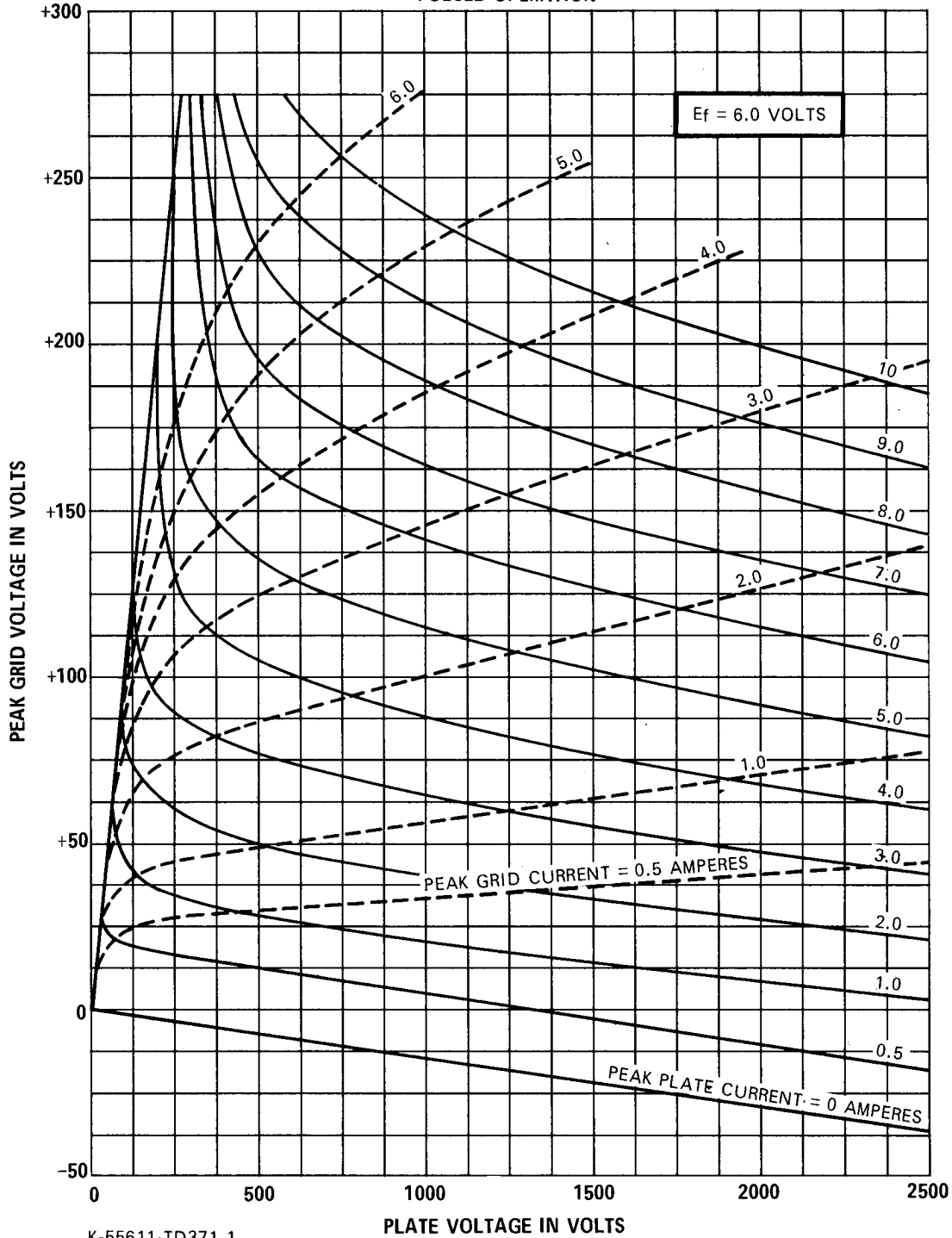
Frequency	1100	Megahertz
Heater Voltage	6.0	Volts
DC Plate Voltage	1500	Volts
DC Grid Voltage	-115	Volts
Pulse Length	3.5	Microseconds
Duty Factor	0.0035	
Peak Plate Current	1.4	Amperes
Peak Power Output, Approximate	675	Watts

NOTES

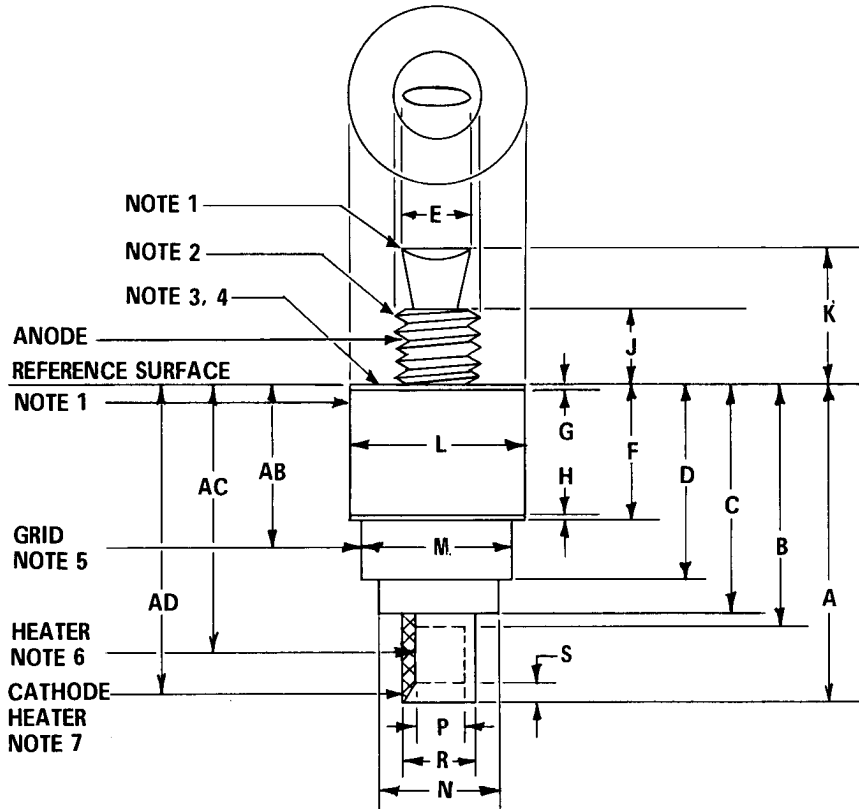
- ★ The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance. When used at low peak plate current the heater voltage should be reduced for longer life.
- Heater current of a bogey tube at $E_f = 6.0$ volts.
- ◆ Without external shield.
- ▲ With adequate heat sink.
- The impedance of the plate supply should be such as to limit the plate current to 10 times the normal operating plate current if the tube is considered a short circuit.

AVERAGE CONSTANT-CURRENT CHARACTERISTICS

PULSED OPERATION



PHYSICAL DIMENSIONS



REF	INCHES	
	MINIMUM	MAXIMUM
A	1.365	1.425
B	---	1.084
C	---	1.025
D	0.850	0.900
E	---	0.320
F	0.520	0.560
G	---	0.040
H	---	0.030
J	---	0.340
K	---	0.600
L	0.760	0.800
M	0.655	0.665
N	---	0.545
P	0.213	0.223
R	0.315	0.325
S	---	0.086

ELECTRODE CONTACT AREA		
REF	LIMITS (INCHES)	CONTACT
AB	0.775 ± 0.040	GRID
AC	1.181 ± 0.097	HEATER
AD	1.195 ± 0.070	CATHODE

NOTES:

1. Do not clamp on this surface.
2. Thread 3/8" - UNC 2A.
3. Electrode Contact Surface, Anode.
4. Measure Anode Shank temperature here.
5. Electrode Contact Surface, Grid.
6. Electrode Contact Surface, Heater.
7. Electrode Contact Surface, Heater and Cathode rf.