



**ELECTRONIC  
INNOVATIONS**  
IN ACTION

**MICROWAVE DEVICES**

PRELIMINARY

**— PRODUCT INFORMATION —**

**Y-1171**

Development Type \*

**Planar Triode**

The Y-1171 is a metal-ceramic, planar triode intended for use as a CW oscillator at frequencies through X-band.

**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	---	270	---	Milliamperes	6.3	---	---	---	---
Plate Voltage	---	---	140	Volts	6.3	---	30	0	---
Amplification Factor	---	57	---		6.3	---	30	0	---
Transconductance	.20000	---	---	Micromhos	6.3	---	30	0	---
Direct Interelectrode Capacitances †									
Grid to Plate: (g to p)	---	1.1	---	pf					
Input: g to (h+k)	---	1.95	---	pf					
Cathode Heating Time	60	---	---	Seconds					

**CW OSCILLATOR SERVICE**

Frequency	10	Gigahertz
DC Plate Voltage	150	Volts
Grid Resistor	2200	Ohms
Plate Current	30	Milliamperes
Grid Current	§	Milliamperes
Power Output	10	Milliwatts

**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.
- † Measured at 450 KHz using a grounded adapter that provides shielding between external terminals of tube.
- § To be determined.

**GENERAL ELECTRIC**

Supersedes PI Sheet dated 5-64

## ABSOLUTE-MAXIMUM RATINGS

Plate Voltage .....	200	Volts
Positive DC Grid Voltage.....	0	Volts
Negative DC Grid Voltage .....	4.5	Volts
Plate Dissipation.....	45	Watts
DC Grid Current.....	5.0	Milliamperes
DC Cathode Current .....	30	Milliamperes
Peak Cathode Current .....	80	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) .....	10	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.

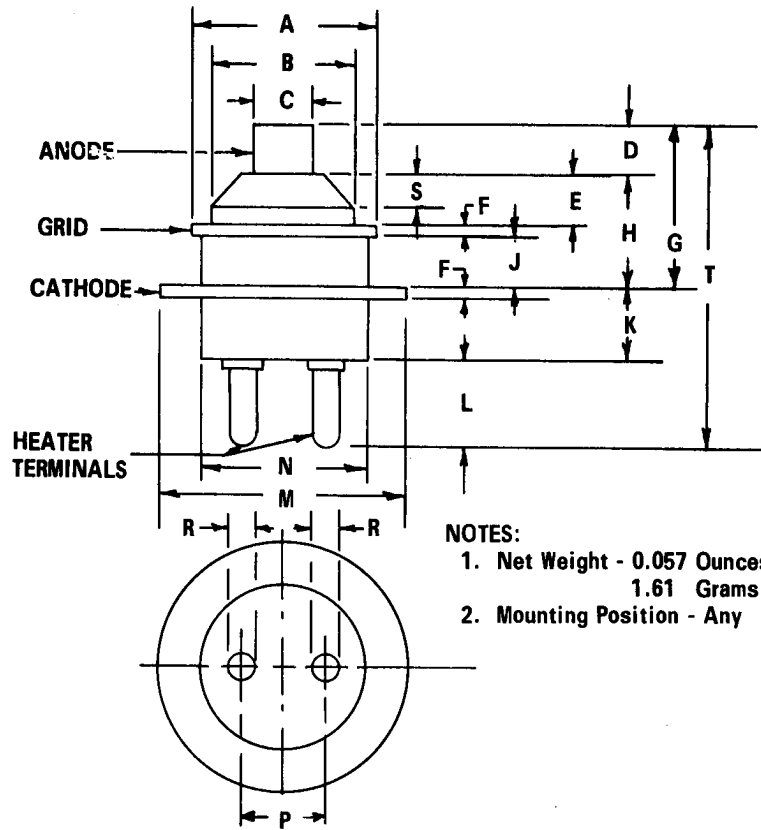
## NOTES

- ▲ For specific recommendations concerning higher temperature operation, contact your General Electric sales representative.
- This assumes no thermal heat sinking to any insulator.

The devices and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of devices by General Electric Company conveys any license under patent claims covering combinations of these devices with other devices or elements. In the

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.

PHYSICAL DIMENSIONS



- NOTES:  
 1. Net Weight - 0.057 Ounces  
 1.61 Grams  
 2. Mounting Position - Any

Ref.	INCHES			MILLIMETERS		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.357	0.360	0.363	9.068	9.144	9.220
B	---	---	0.285	---	---	7.239
C	0.108	0.110	0.112	2.743	2.794	2.845
D	0.095	0.100	0.105	2.413	2.540	2.667
E	0.095	0.100	0.105	2.413	2.540	2.667
F	0.025	0.028	0.031	0.635	0.711	0.787
G	0.315	0.325	0.335	8.001	8.225	8.509
H	0.216	0.224	0.232	5.486	5.690	5.893
J	0.094	0.098	0.102	2.388	2.489	2.591
K	0.143	0.150	0.157	3.632	3.810	3.988
L	0.165	0.175	0.185	4.191	4.445	4.699
M	0.476	0.480	0.484	12.09	12.19	12.29
N	---	---	0.330	---	---	8.458
P	0.130	0.136	0.142	3.302	3.454	3.607
R	0.048	0.051	0.054	1.219	1.295	1.372
S	---	0.060	---	---	1.524	---
T	0.623	0.650	0.677	15.82	16.51	17.20

**Y-1171**

Page 4  
12-70

**TUBE PRODUCTS DEPARTMENT**

**GENERAL  ELECTRIC**

**Owensboro, Kentucky 42301**