Bendix 6357 Type TD-11

GAS NOISE SOURCE



RATINGS

Filament Voltage	12 Volts
Anode Current	200 Ma D.C.
Filament Current	170 Ma D.C.
Tube Dissipation	17 Watts
Tube Voltage Drop	85 Volts
Ambient Temp. Range	−40°F to +165°F

DESCRIPTION

This tube is designed for use as a noise source in super high frequency (SHF) measurements. It is constructed for use with the RG-52/U waveguide to provide noise in the 2.4 - 3.6 cm waveband. When used in the standard mount assembly, it functions as an untuned termination over the entire recomended transmission bandwidth of the guide.

The run-start switch shown in the typical circuit provides the high voltage surge or spike necessary to initiate the discharge. In the start position, current passes through the filament at the cathode end of the tube preheating the filament and assisting in starting the discharge. As the switch is released to the run position, a high surge voltage appears momentarily across the tube, caused by the collapse of the magnetic field in choke "L". This high voltage initiates the discharge in the tube which is then sustained by the power supply voltage and stabilized by the resistance R2. External power is no longer supplied to the filament once the discharge is established. Filament temperature is maintained by the tube current and is evidenced by a hot spot on the filament structure.

OPERATING CHARACTERISTICS

The use of pure inert gas eliminates the dependence of noise output on the operating temperature. The noise source is available for measurement at zero warm-up time with little change due to ambient temperature variations.

The performance of the tube is non-critical with respect to variations in the discharge current.

The average voltage standing wave ratio (VSWR) over the recommended transmission bandwidth of the guide is about 1.07 with a maximum of about 1.13. The noise temperature is 16 ± 1 db above 290° K.

The operating circuit should have sufficient series resistance to limit the current through the tube to the rated value after the starting period.

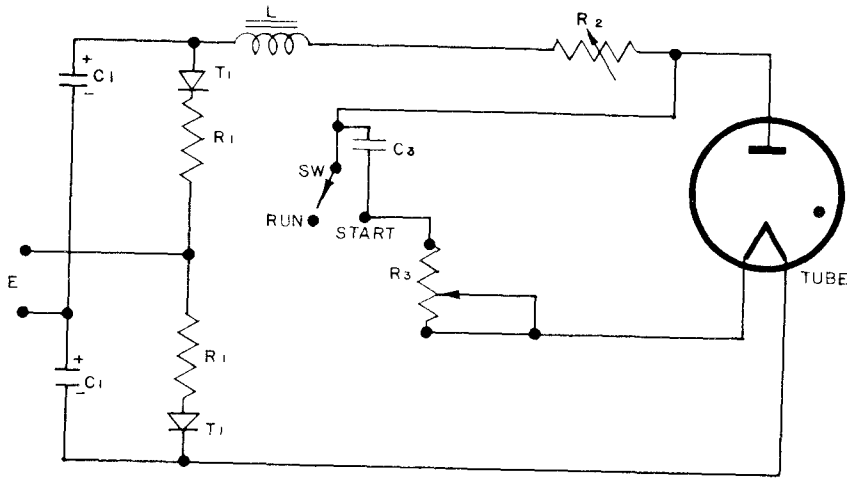
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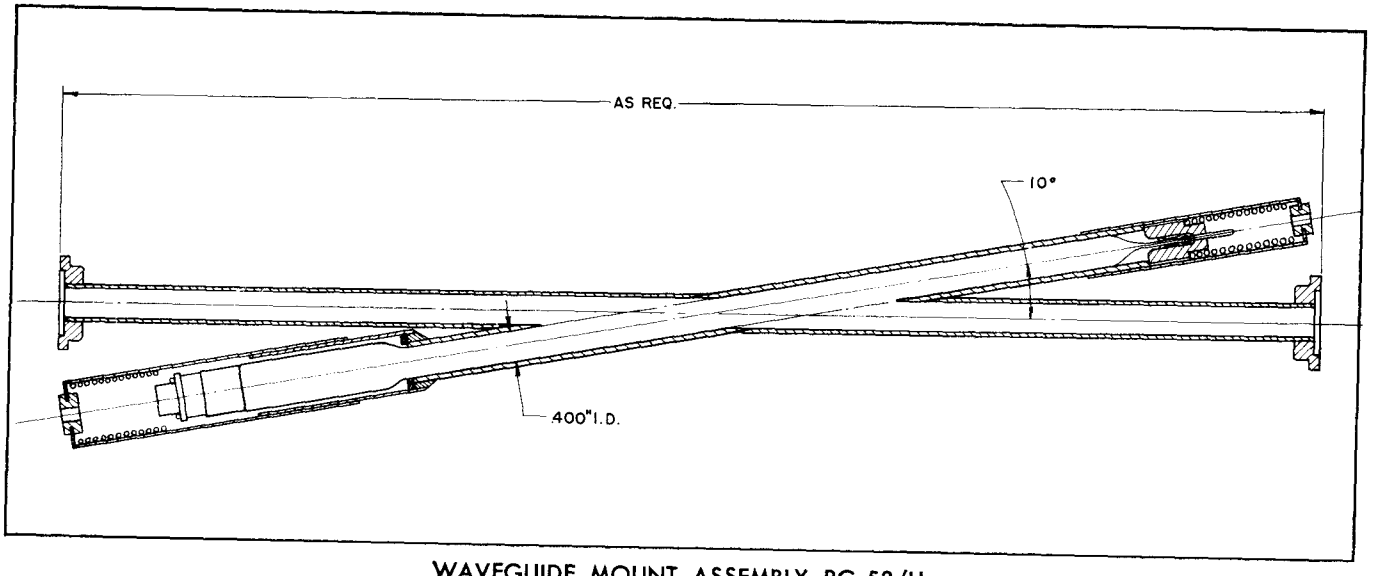
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SYMBOL DESIGNATION

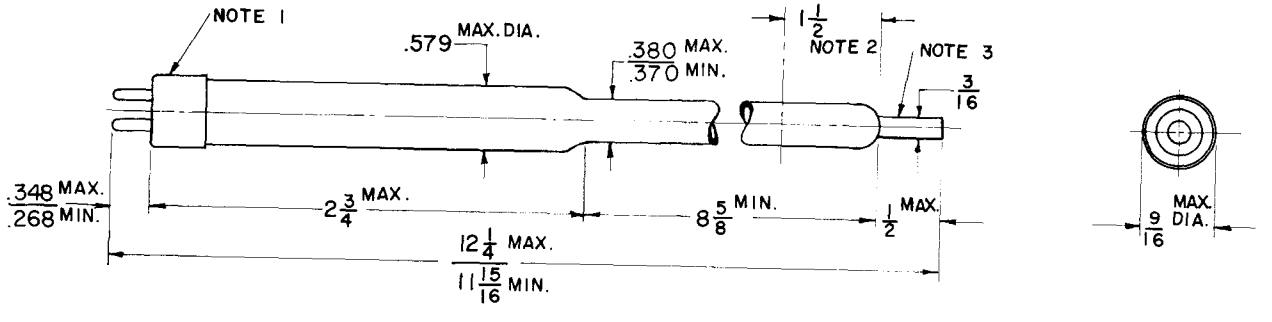
E = 115 V A.C
C1 = 40 UF
Ca = 006 UF - 2500 V
R1 = 5 Ω - 1 W
R2 = 800 Ω - 50 W
R3 = 1000 Ω - 25 W
L = 2HY 250MA
T1 = SELENIUM RECTIFIER
SW = (MOMENTARY) - NORMALLY OPEN

TYPICAL STARTING AND OPERATING CIRCUIT



WAVEGUIDE MOUNT ASSEMBLY RG-52/U

NOTES:
1. MINIATURE BI-PIN BASE.
2. .380 MAX., NO MIN. DIMENSION ON DIA. FOR THIS LENGTH OF TUBE.
3. BRASS CONTACT.



OUTLINE DRAWING