

ELECTRON TUBE DIVISION  
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F-126  
CERAMIC HYDROGEN THYRATRON

DESCRIPTION

The F-126 is a hydrogen thyatron of ceramic metal construction designed for use in compact modulators of high performance radars and for missile applications. This electron tube features a hydrogen reservoir which is connected directly across the cathode heater.

The tube is a plug-in replacement for the 7621 hydrogen thyatron, and is recommended where long-life, high reliability performance is vital.

GENERAL CHARACTERISTICS

| ELECTRICAL                     | Nom. | Min. | Max. |          |
|--------------------------------|------|------|------|----------|
| Heater Voltage . . . . .       | 6.3  | 5.8  | 6.8  | Volts AC |
| Heater Current (at 6.3 volts). |      | 2.5  | 4.0  | Amperes  |
| Minimum Heating Time . . . . . |      | 3    |      | Minutes  |

MECHANICAL

|                            |             |
|----------------------------|-------------|
| Mounting Position. . . . . | Any         |
| Dimensions . . . . .       | Per Outline |
| Cooling. . . . .           | See Note 6  |

MAXIMUM RATINGS

|  |     |              |
|--|-----|--------------|
| Max. Peak Anode Voltage, Forward . . . . .         | 8   | Kilovolts    |
| Max. Peak Anode Voltage, Inverse (Note 1). . . . . | 8   | Kilovolts    |
| Min. Anode Supply Voltage. . . . .                 | 0.3 | Kilovolts DC |
| Max. Peak Anode Current. . . . .                   | 90  | Amperes      |
| Max. Average Anode Current . . . . .               | 100 | Milliamperes |
| Max. RMS Anode Current (Note 2). . . . .           | 2.0 | Amperes AC   |

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MAXIMUM RATINGS, Cont'd.

|   |                     |             |
|---|---------------------|-------------|
| Max. ipy x ib x prr (Pb number) . . . . . | 2.7x10 <sup>9</sup> |             |
| Max. Anode Current Rate of Rise . . . . . | 1000                | Amps./usec. |
| Peak Trigger Voltage (Note 3) . . . . .   |                     |             |
| Max. Anode Delay Time (Note 4) . . . . .  | 0.50                | usec.       |
| Max. Anode Delay Time Drift . . . . .     | 0.15                | usec.       |
| Max. Time Jitter (Note 5) . . . . .       | .005                | usec.       |
| Ambient Temperature . . . . .             | -65° to +90°        | C           |

NOTE 1: The peak inverse voltage should not exceed 2.5 KV during the first 25 microseconds after pulse.

NOTE 2: The root mean square anode current shall be computed as the square root of the product of the peak current and the average current.

NOTE 3: The driver pulse, measured at the tube socket with the thyatron grid disconnected, should have the following characteristics:

- A. Voltage 175-600 Volts
- B. Duration 1-2 Microseconds
- C. Impedance 1500 Ohms (max.)
- D. Time of Rise 0.5 Microsecond (max.)

The limits of anode time delay and anode time jitter are based on the minimum trigger. Using a fast rise trigger with the highest permissible trigger voltage and lowest trigger source impedance materially reduces these values below the limits specified.

NOTE 4: The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which evidence of anode conduction first appears on the loaded grid pulse.

NOTE 5: Time jitter is measured at the 50 percent point on the anode current pulse.

NOTE 6: It may be desirable to employ forced air cooling under conditions of high Pb number operations. A cooling air stream of 5 cfm may be directed into the anode cup.

Additional information for specific applications can be obtained from the Electron Tube Applications Section, ITT Electron Tube Division, P. O. Box 100, Easton, Pennsylvania 18042.

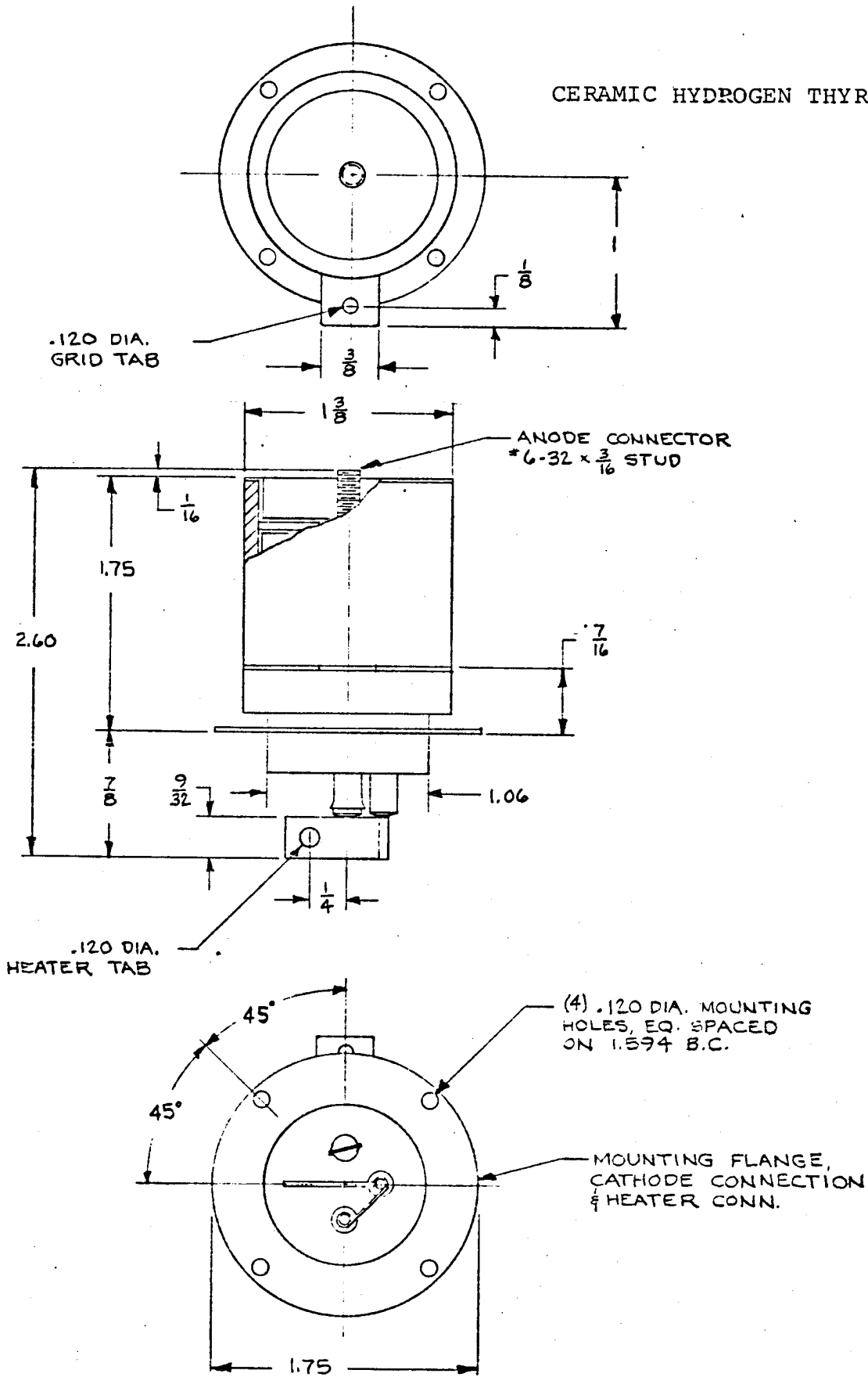


FIGURE 1 TYPE F-126 OUTLINE