

These ratings represent those of current samples of this type. Refer to the Objective Technical Information sheet for design-objective ratings.

*This technical information is proprietary and is furnished only as a service to customers.*

### ZM-6050

#### PACKAGED VOLTAGE-TUNABLE MAGNETRON

2200-3850 MEGACYCLES

2 WATTS CW OUTPUT

The ZM-6050 is a voltage-tunable magnetron for operation in the 2200 to 3850-megacycle frequency range. A complete r-f power source package requiring only input power connections and an r-f power output connection, it has a minimum CW power output of 2 watts across the entire frequency range. The tube may be voltage tuned over a portion or all of the frequency range for which it is designed or operated at a fixed frequency. The voltage frequency relationship is essentially linear.

#### GENERAL

##### Electrical

Cathode - Directly Heated

|                    | Min. | Bogey | Max. |         |
|--------------------|------|-------|------|---------|
| Filament Voltage * | 2.1  | 2.35  | 2.6  | Volts   |
| Filament Current * | -    | 1.9   | -    | Amperes |

##### Mechanical

Mounting Position - Any

|            |     |        |
|------------|-----|--------|
| Net Weight | 3.5 | Pounds |
|------------|-----|--------|

##### Thermal

Type of Cooling - Conduction or Convection

|                         |    |                       |
|-------------------------|----|-----------------------|
| Air Flow                | 5  | Cubic Feet per Minute |
| Ambient Air Temperature | 50 | C                     |

#### MAXIMUM RATINGS

##### Absolute Values

|                             |      |              |
|-----------------------------|------|--------------|
| Filament Current            | 2.0  | Amperes      |
| Anode Voltage               | 2000 | Volts        |
| Anode Current               | 30   | Milliamperes |
| Power Input                 | 45   | Watts        |
| Injection Electrode Voltage | 500  | Volts        |
| Injection Electrode Current | 1.0  | Milliamperes |

#### TYPICAL OPERATING CONDITIONS

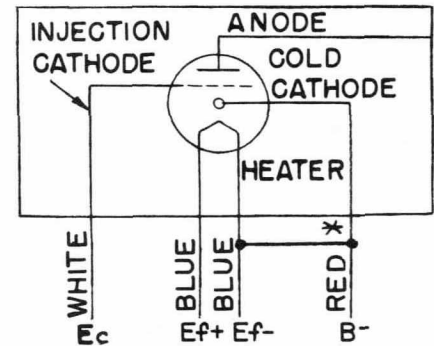
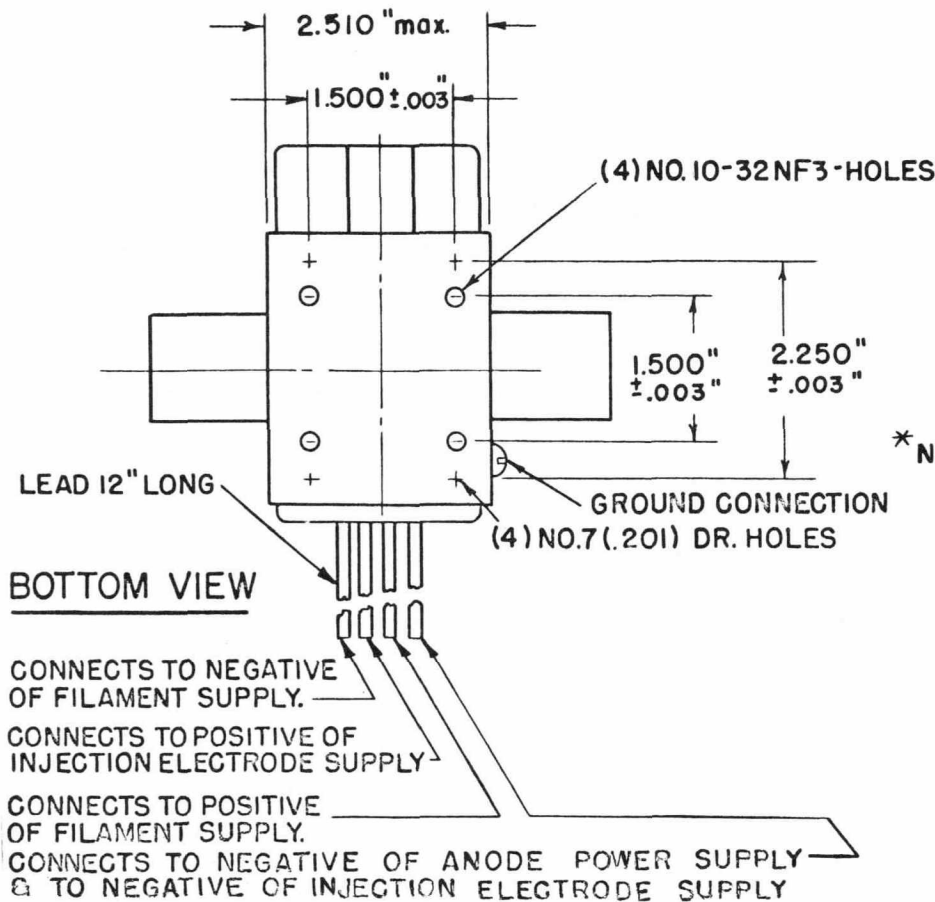
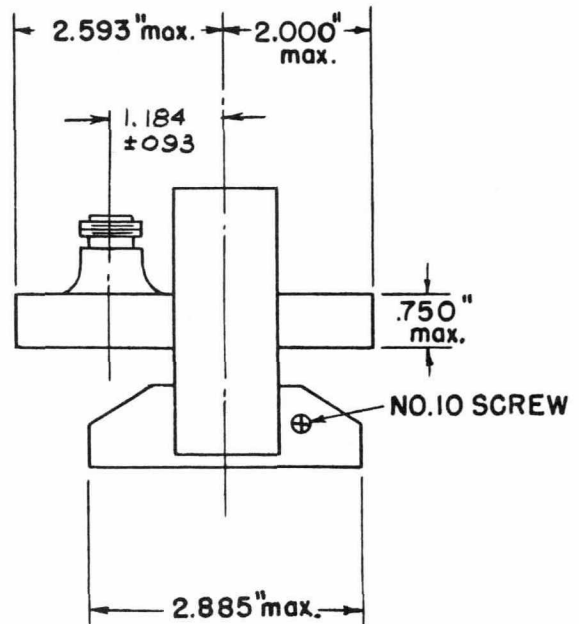
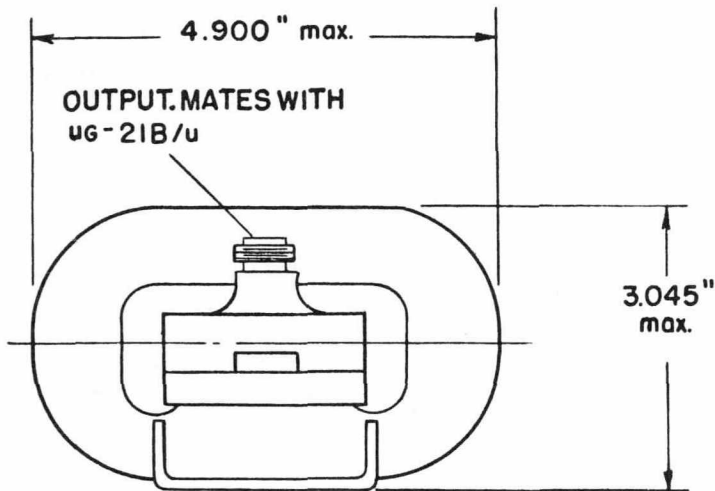
##### Operation with 60-cycle Sweep Voltage in Wide-band Circuit

|                                                                |                  |                     |
|----------------------------------------------------------------|------------------|---------------------|
| Tunable Range ‡                                                | 2200-3850        | Megacycles          |
| Tuning Sensitivity, Approximate                                | 2.5              | Megacycles per Volt |
| Filament Voltage *, Approximate                                | 2.50             | Volts               |
| Filament Current                                               | 1.9              | Amperes             |
| Anode Voltage at 3 Kilomegacycles                              | 1250             | Volts               |
| Anode Current, Average                                         | 10-20            | Milliamperes        |
| Injection Electrode Voltage (Positive with Respect to Cathode) | 130-450          | Volts               |
| Injection Electrode Current                                    | 0.1              | Milliamperes        |
| Voltage Standing Wave Ratio of Load                            | 1.3              |                     |
| Power Output, Minimum                                          | 2.0              | Watts               |
| Power Variation Over Band                                      | Less than 4 to 1 |                     |

\* Filament current should be adjusted to 1.9 amperes.

‡ Frequency controlled by anode voltage.

CAUTION: A clearance of 9 inches between ferromagnetic materials and the tube will prevent any serious change of the operating characteristics.



\* NOTE: AN EXTERNAL CONNECTION IS  
REQUIRED BETWEEN THE COLD  
CATHODE LEAD AND ONE OF  
THE HEATER LEADS.