

OBJECTIVE TECHNICAL INFORMATION

These ratings represent the design objective for this product. Refer to the Preliminary Technical Information sheet for ratings currently achieved in the progression towards design objectives. If PTI sheets do not exist, consult your local Tube Department Regional Sales Office.

DEVELOPMENTAL TYPE

> ZM-6277 OTI-216 Page 1 12-68

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

ZM-6277

PACKAGED VOLTAGE-TUNABLE MAGNETRON

2860-3460 Megacycles

Integral Magnet and Isolator

100 Watts Minimum CW Output

The ZM-6277 is a magnetically shielded voltage-tunable oscillator which operates at a minimum power output of 100 watts over the 2860-3460-megacycle range. It is designed for CW/FM transmitting-tube operation at low- or high-modulation frequencies. The high efficiency allows air cooling to be used and in many applications heat-sink cooling is adequate. The integral isolator protects the tube against load mismatches thus minimizing interface problems between the VTM and its associated equipment.

This shielded tube is unaffected by passive magnetic materials and does not require the special tools, storage and handling necessitated by conventional electron devices employing magnetic fields. It is a complete radio-frequency power source which requires only d-c input power and generates radio-frequency power over its electronically tuned frequency range. This voltage-tuned magnetron may be operated over a portion or all of the frequency range or operated at a fixed frequency. Its frequency versus voltage-tuning characteristic is essentially linear.

GENERAL Electrical Cathode (filament) - Directly Heated	
Warm-up Time, maximum	Seconds
Cathode Input Capacitance 40 Maximum 35	μμ <u>f</u> μμ <u>f</u>
Mechanical	Amer
Mounting Position 4.5	Any Pounds
Thermal	
Cooling - Forced Air * Air Temperature, maximum110	С
Body Temperature, maximum †	Č
MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS Maximum Ratings, Absolute Values 2.5 Filament Voltage 6.0 Anode Voltage 3400 Sweep Voltage 700 Anode Current, swept 80 Power Input 250 Injection Electrode Voltage 1700 Voltage Standing Wave Ratio of Load 2.0	Volts Amperes Volts Volts Milliamperes Watts Volts
Typical Operating Conditions Operation with 60-cycle Sweep Voltage Filament Voltage, approximate	Volts Amperes Megacycles Volts Volts Milliamperes Volts Milliamperes

The specifications of this type are subject to change. This device is now under development and is made available for experimental purposes only. For the most recent information concerning the status of this development, please consult your local Tube Department Regional Sales Office, or current Preliminary Technical Information for the same catalog number.

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS (Cont'd.)

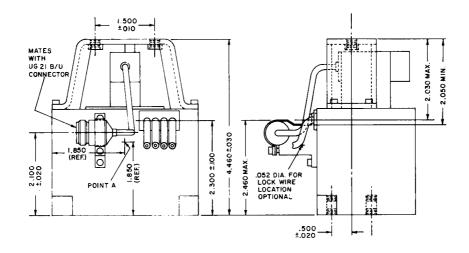
Typical Operating Conditions (Cont'd.)

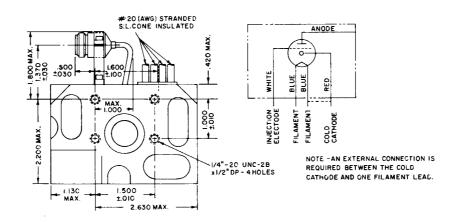
Ope

eration with 60-cycle Sweep voltage (Cont'a.)	
Power Output	
Average, Swept Across Full Band	
Minimum At Any Point Without Sween Voltage	

Power Output	
Average, Swept Across Full Band	10 Watts ***
Minimum, At Any Point Without Sweep Voltage	00 Watts ***
Variation Across Band	
Typical	.4 Decibels
Maximum 2	2.0 Decibels
Efficiency, minimum	
At Any Frequency	55 Percent
Swept Across Full Band	60 Percent

- *Hold temperature to 125 C or less at point shown on the outline drawing. At the maximum inlet temperature of 110 C, 100 cubic feet per minute is required but this drops rapidly for lower inlet temperatures.
- † Measured at point shown on the outline drawing.
- ‡ Set to value marked on tube within ± 0.1 ampere.
- ¶ Set to give anode current marked on tube within ± 2 milliamperes.
- *** Measured with load VSWR < 1.2; for loads between 1.2 and 2.0 VSWR the power output is diminished by the amount reflected, plus a positive or negative change due to residual pulling. At 2.0 VSWR the theoretical reduction at the worst load phase is down to 85 percent, and the guaranteed performance is not less than 75 percent of rated power.





TUBE DEPARTMENT

