

CERAMIC VELOCITRON* TUBES

7506/ZV1012	500 to 3,000 mc
7505/ZV1010	700 to 3,000 mc
7049/ZV1009	1,500 to 6,000 mc

Extremely rugged. Maximum heat, shock and vibration resistance.



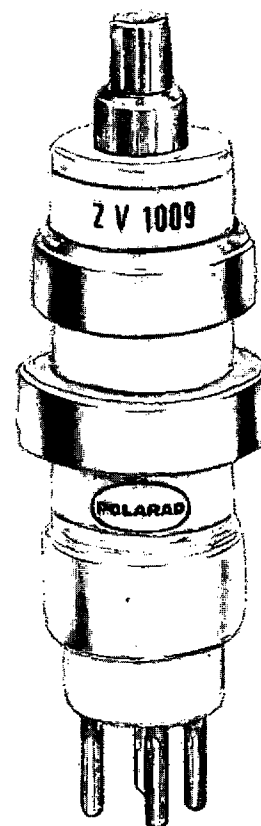
APPLICATIONS

An integrated family of rugged Velocitron*† reflex klystrons for cw, fm, or pulse operation in an external cavity.

- *In microwave signal generators:* Output power is adequate for generators providing more than 0 dbm output. Velocitrons permit fm, pulse, and cw signal generation.
- *In microwave signal sources:* Suitable for use as a low power transmitter in antenna radiation patterns, standing wave, and impedance measurements.
- *In spectrum analyzers:* Provides low incidental fm in panoramic displays due to their low microphonics and high frequency stability.
- *In microwave receivers:* Ideal for local oscillator operation in receivers with AFC because of their frequency control characteristics.

FEATURES

- Maximum shock and vibration resistance achieved by all-ceramic construction.
- Maximum heat resistance. Guaranteed for operation up to 250°C seal temperature. No cooling necessary.
- Interchangeable. All three klystrons use same power supplies and mechanical fittings.
- Virtually non-microphonic characteristics provided by rugged internal construction.
- Can be operated cw, pulsed, and fm.
- Low distortion fm.
- Breakage in handling minimized.
- 7505/ZV1010 replaces commercial klystrons 5837 and 6BM6; 7049/ZV1009 replaces 5836 and 6BL6.



Velocitron*† Type 7049/ZV1009

*Trade Mark Registered
†Manufactured under Western Electric Patents

MECHANICAL DATA

CONNECTIONS:

Pin 1	Control Electrode
Pin 2	Heater
Pin 3	Cathode
Pin 4	Heater
Lower Contact Ring	1st Resonator Grid
Upper Contact Ring	2nd Resonator Grid
Cap	Reflector

HEATER CHARACTERISTICS:

Reflector Voltage —700 volts dc max. to —35 volts dc min.
Control Electrode Voltage +20 to —150 volts dc max.
Control Electrode Current 12 ma dc max.
Heater-Cathode Voltage ±45 volts dc max.
Power Input 12 watts max.
Seal Temperature 250 degrees C max.

Resonator Voltage 350 volts dc max.
Resonator Current 35 ma dc max.



TYPICAL OPERATION AS A PULSE-MODULATED OSCILLATOR:

The tubes can be pulse modulated over most of the cw frequency range. The general conditions are the same as for cw operation except as shown below.

Control Electrode Voltage.....10 volts
Pulse Modulation Voltage.....+20 volts
Pulse Repetition Rate.....Limited only by capabilities
of external modulator.
Minimum Pulse Duration.....0.5 microsecond
Rise Time.....0.1 microsecond
Decay Time.....0.1 microsecond

Note: Specifications subject to change without notice.

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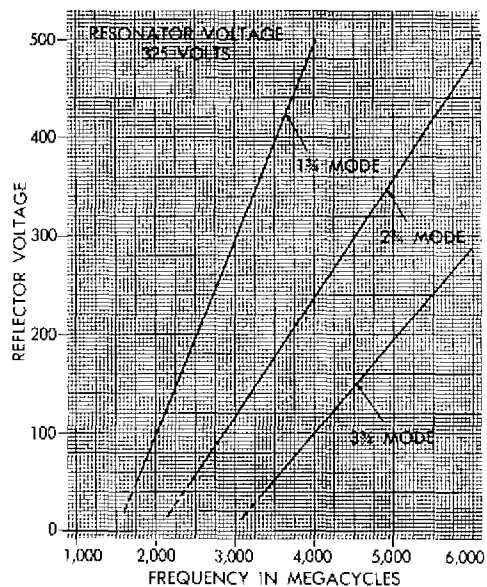


Figure 2. Typical Reflector Voltage vs. Frequency
Type 7049/ZV1009

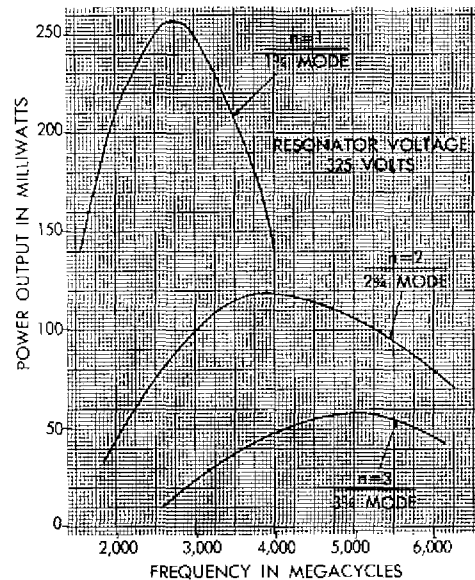


Figure 3. Typical Curve of Power Characteristics
Type 7049/ZV1009

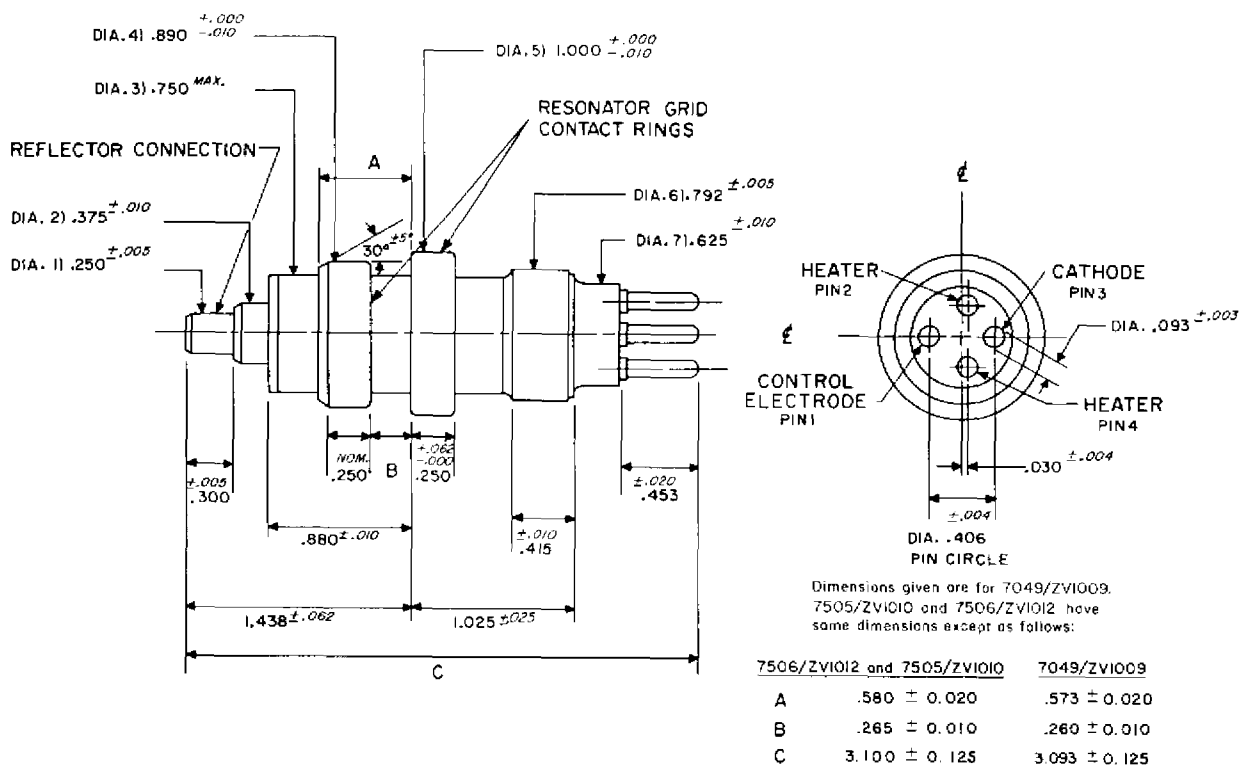


Figure 4. Outline Drawing

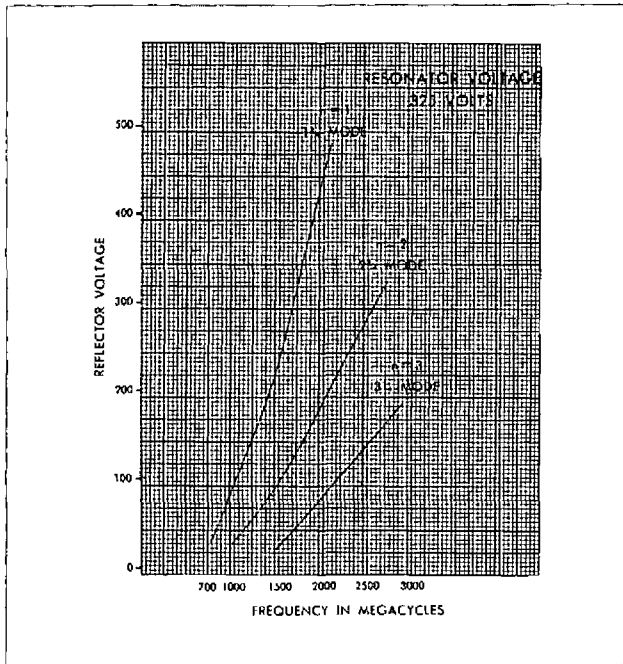


Figure 5. Typical Reflector Voltage vs. Frequency
Type 7505/ZV1010

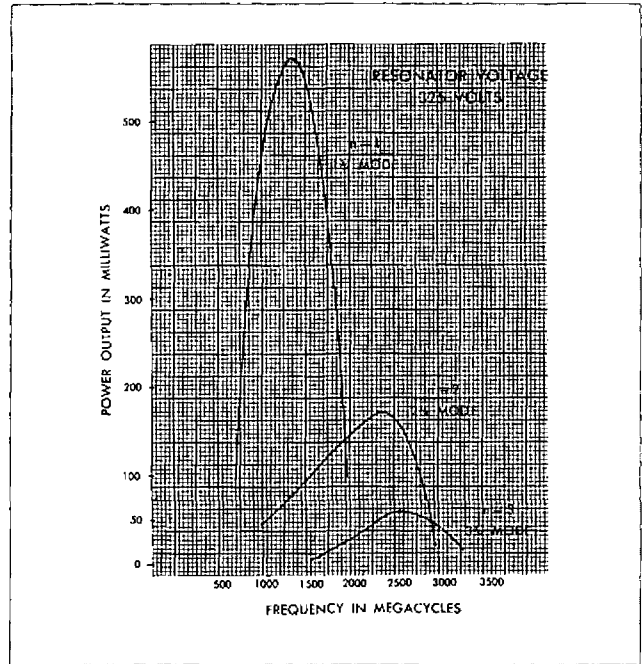


Figure 6. Typical Curve of Power Characteristics
Type 7505/ZV1010

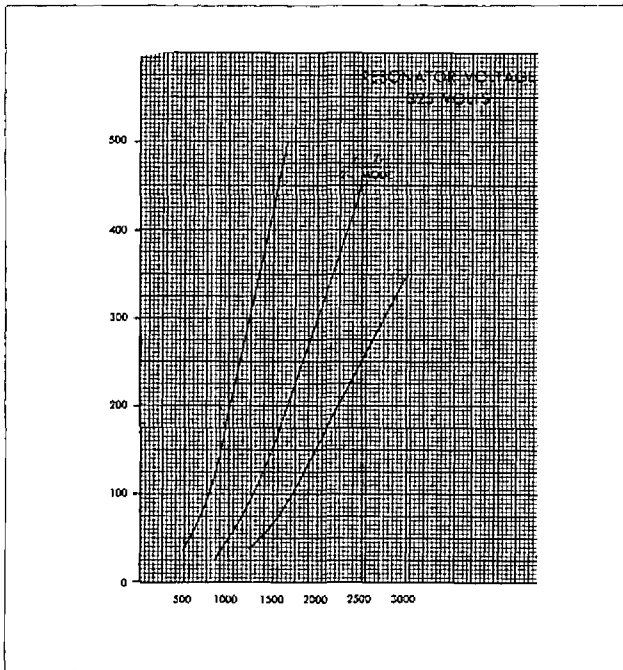


Figure 7. Typical Reflector Voltage vs. Frequency
Type 7506/ZV1012

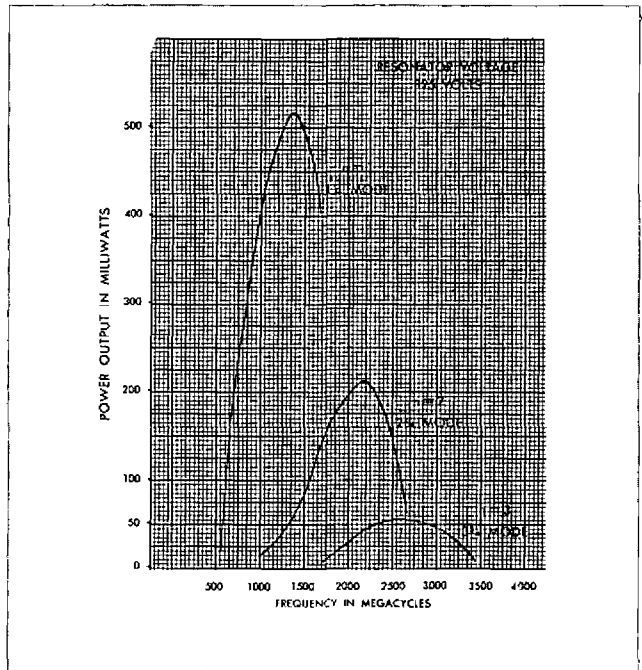


Figure 8. Typical Curve of Power Characteristics
Type 7506/ZV1012