

## MECHANICAL DATA

|                             |                                                        |
|-----------------------------|--------------------------------------------------------|
| Bulb . . . . .              | T-9                                                    |
| Base . . . . .              | Octal                                                  |
| Outline . . . . .           | See Drawing                                            |
| Basing . . . . .            | See Drawing                                            |
| Output Cathodes . . . . .   | No. 0, 5, 8, and 9                                     |
| Zero Position . . . . .     | No. 0 Cathode Aligned<br>with Pin No. 6 $\pm 10^\circ$ |
| Mounting Position . . . . . | Any                                                    |

## ELECTRICAL DATA

### INTERELECTRODE CAPACITANCES (Approx.)

|                                             |        |
|---------------------------------------------|--------|
| Any Cathode to All Other Elements . . . . . | 4.2 pf |
| Guide No. 2 to All Other Elements . . . . . | 10 pf  |
| Guide No. 1 to All Other Elements . . . . . | 11 pf  |

### RATINGS (Absolute Values)

|                                                            | Min. | Max.      |
|------------------------------------------------------------|------|-----------|
| Anode Supply Voltage <sup>1</sup> . . . . .                | 400  | 800 Volts |
| Voltage Between Electrodes<br>(Other than Anode) . . . . . | —    | 140 Volts |
| Transfer Voltage . . . . .                                 | 35   | 140 Volts |
| Anode Current . . . . .                                    | 0.6  | 0.8 Ma    |
| Input Frequency . . . . .                                  | 0    | 100 Kpps  |
| Ambient Temperature . . . . .                              | -55  | +60 °C    |

### TYPICAL OPERATING CHARACTERISTICS

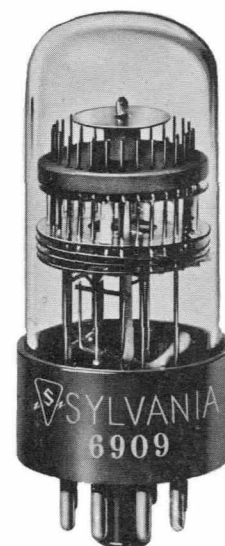
|                                                                            |              |      |
|----------------------------------------------------------------------------|--------------|------|
| Anode Supply Voltage <sup>1</sup> . . . . .                                | 400 Volts    |      |
| Nominal Tube Drop . . . . .                                                | 235 Volts    |      |
| Guide Bias . . . . .                                                       | +45 Volts    | Min. |
| Square Double Pulse Drive Amplitude<br>(Each Pulse) <sup>2</sup> . . . . . | -85 Volts    | Min. |
| Square Double Pulse Width (Each Pulse) <sup>2</sup> . . . . .              | 4 $\mu$ Sec. | Min. |
| Forced Reset Pulse Amplitude . . . . .                                     | -120 Volts   | Min. |
| Forced Reset Pulse Width . . . . .                                         | 4 $\mu$ Sec. | Min. |
| Cathode Load Resistor <sup>3</sup> . . . . .                               | 50 K-Ohms    | Max. |

### NOTES:

1. A value for the anode resistor can be computed by subtracting the nominal tube drop from the supply voltage and dividing the remainder by the desired operating current.
2. Two separate pulses, back to back or with slight overlap, must be maintained.
3. The peak pulse output voltage can be determined by the IR drop across the chosen cathode resistor.
4. A counter tube brochure is available on request from Sylvania Electric Products Inc., 1100 Main Street, Buffalo 9, New York.

## QUICK REFERENCE DATA

The Type 6909 is a cold cathode, bidirectional decade counter tube with top viewed readout. It is designed to operate at inputs up to 100,000 pulses per second. Cathodes No. 0, 5, 8, and 9 are brought out to individual base pins. Applications include computing, scaling, counting, frequency dividing, coding, modulating, matrixing, indexing, multiplexing, addition and subtraction. (See Note 4.)



## SYLVANIA ELECTRONIC TUBES

A Division of  
Sylvania Electric Products Inc.

## RECEIVING TUBE OPERATIONS EMPORIUM, PA.

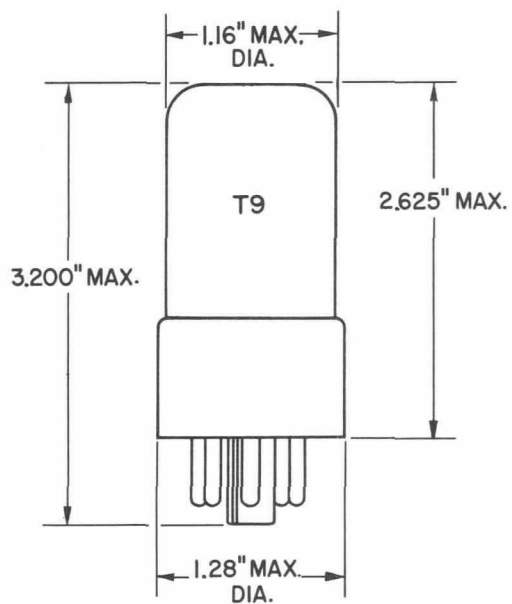
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DECEMBER, 1963

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File Under  
SPECIAL PURPOSE  
ELECTRONIC TUBES

# OUTLINE



## BASE CONNECTIONS

