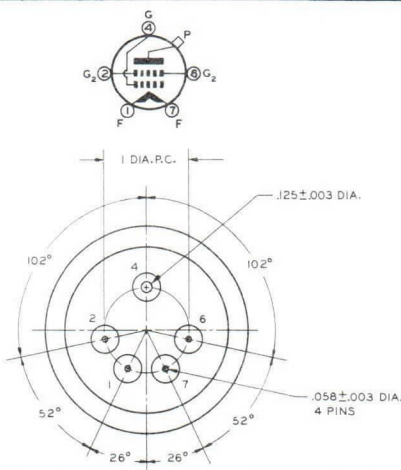
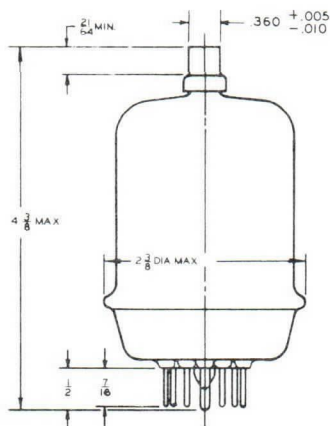




# PL-8165/ 4-65A

## Power Tetrode



The PL-8165/4-65A is a 65-watt power tetrode suitable for use as an r-f power amplifier and oscillator, and as an a-f power amplifier and modulator. Because of its compact size and quick-heating thoriated-tungsten filament, the PL-8165/4-65A is especially useful in mobile communications equipment. The tube can be operated at full input at frequencies up to 150 Mc.

### ELECTRICAL CHARACTERISTICS

|                                                              |                 |
|--------------------------------------------------------------|-----------------|
| Filament -- Thoriated Tungsten                               |                 |
| Voltage - - - - -                                            | 6.0 volts       |
| Current - - - - -                                            | 3.5 amperes     |
| Grid-Screen Amplification Factor - - - - -                   | 5               |
| Interelectrode Capacitances                                  |                 |
| Grid-Plate - - - - -                                         | .08 $\mu$ fd.   |
| Input - - - - -                                              | 7.5 $\mu$ fd.   |
| Output - - - - -                                             | 2.2 $\mu$ fd.   |
| Transconductance (500 v. Eb, 125 ma. Ib, 250 v. Ec2) - - - - | 4000 $\mu$ mhos |

### MECHANICAL CHARACTERISTICS

|                             |                           |
|-----------------------------|---------------------------|
| Base <sup>1</sup> - - - - - | 5-pin Septar              |
| Maximum Overall Dimensions  |                           |
| Length - - - - -            | 4.38 inches               |
| Diameter - - - - -          | 2.38 inches               |
| Mounting Position - - - - - | Vertical, base up or down |

### MAXIMUM RATINGS — C C S (Continuous Commercial Service)

|                         | Class C<br>CW or FM | Class C<br>Telephony |            |
|-------------------------|---------------------|----------------------|------------|
| D-C Plate Voltage       | 3000                | 2500                 | max. volts |
| D-C Screen-Grid Voltage | 600                 | 400                  | max. volts |
| D-C Plate Current       | 150                 | 120                  | max. ma.   |
| Screen-Grid Input       | 10                  | 10                   | max. watts |
| Plate Dissipation       | 65                  | 45                   | max. watts |

<sup>1</sup> Fits E. F. Johnson Co. No. 122-101 or 122-247 sockets.

27 January 1964



## PENTA LABORATORIES, INC.

312 NORTH NOPAL STREET • SANTA BARBARA, CALIFORNIA



## PL-8165/4-65A

### TYPICAL OPERATION — Class-C CW or FM Amplifier

#### Grounded Cathode Circuit

|                                 |      |      |      |      |       |
|---------------------------------|------|------|------|------|-------|
| D-C Plate Voltage               | 1000 | 1500 | 2000 | 3000 | volts |
| D-C Screen-Grid Voltage         | 250  | 250  | 250  | 250  | volts |
| D-C Control-Grid Voltage        | -80  | -85  | -90  | -100 | volts |
| D-C Plate Current               | 150  | 150  | 140  | 115  | ma.   |
| D-C Screen-Grid Current         | 40   | 40   | 40   | 22   | ma.   |
| D-C Control-Grid Current        | 17   | 18   | 11   | 10   | ma.   |
| Peak R-F Grid Voltage (approx.) | 175  | 180  | 190  | 170  | volts |
| Driving Power (approx.)         | 3.0  | 3.2  | 2.1  | 1.7  | watts |
| Plate Power Input               | 150  | 225  | 280  | 345  | watts |
| Plate Dissipation               | 55   | 60   | 65   | 65   | watts |
| Plate Power Output              | 95   | 165  | 215  | 280  | watts |

### TYPICAL OPERATION — Class-C Amplitude-Modulated Amplifier, Carrier Conditions

#### Grounded-Cathode Circuit

|                                 |      |      |      |      |       |
|---------------------------------|------|------|------|------|-------|
| D-C Plate Voltage               | 1000 | 1500 | 2000 | 2500 | volts |
| D-C Screen-Grid Voltage         | 250  | 250  | 250  | 250  | volts |
| D-C Control-Grid Voltage        | -125 | -125 | -130 | -135 | volts |
| D-C Plate Current               | 120  | 120  | 120  | 110  | ma.   |
| D-C Screen-Grid Current         | 40   | 40   | 40   | 25   | ma.   |
| D-C Control-Grid Current        | 16   | 16   | 16   | 12   | ma.   |
| Peak R-F Grid Voltage (approx.) | 220  | 220  | 225  | 215  | volts |
| Driving Power (approx.)         | 3.5  | 3.5  | 3.6  | 2.6  | watts |
| Plate Power Input               | 120  | 180  | 240  | 275  | watts |
| Plate Dissipation               | 30   | 40   | 45   | 45   | watts |
| Plate Power Output              | 90   | 140  | 195  | 230  | watts |

