

# TYPE 4C34

## GENERAL CHARACTERISTICS, ELECTRICAL

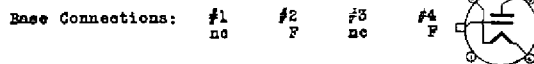
|                                                                                              |                    |
|----------------------------------------------------------------------------------------------|--------------------|
| Filament                                                                                     | Thoriated tungsten |
| Voltage                                                                                      | 11.0 volts ac      |
| Current                                                                                      | 4.0 amps           |
| Average characteristics: at $E_b = 2000$ v; $I_b = 150$ ma;<br>$E_f = 11.0$ v; $E_c = -45$ v |                    |
| Amplification factor                                                                         | 23                 |
| Grid-Plate Transconductance                                                                  | 5600 micromhos     |
| Direct Interelectrode Capacitances:                                                          |                    |
| Grid-Plate                                                                                   | 6.5 mmf            |
| Input, grid-filament                                                                         | 6.0 mmf            |
| Output, plate-filament                                                                       | 1.4 mmf            |
| Frequency for Maximum Ratings = 60 mc                                                        |                    |

## MECHANICAL:

Type of cooling - Convection (Maximum ambient 60° C)  
Base Description - Jumbo 4-large pin metal sleeve ceramic with bayonet pin  
Maximum Over-all Dimensions (see outline drawing)

Length = 11.0 inches

Diameter = 3.125 inches



## CLASS "B" AUDIO-FREQUENCY POWER AMPLIFIER, TWO TUBES

|                                            | Typical Operation | Max. Ratings |
|--------------------------------------------|-------------------|--------------|
| D-C Plate Voltage                          | 2000              | 3000 volts   |
| Max. Sig. Plate Current (per tube)*        |                   | 275 ma       |
| D-C Max. Sig. Plate Input (per tube)*      |                   | 600 watts    |
| Plate Dissipation (per tube)*              |                   | 250 watts    |
| D-C Grid Voltage                           | -72               | volts        |
| Peak A-F Grid Input Voltage (grid to grid) | 404               | volts        |
| Zero Signal Plate Current                  | 60                | ma           |
| Max. Sig. Plate Current                    | 480               | ma           |
| Max. Sig. Driving Power (approx.)          | 14                | watts        |
| Effective Load (plate to plate)            | 9600              | ohms         |
| Max. Sig. Plate Power Output               | 650               | watts        |

\*(Averaged over any audio-frequency cycle)

## CLASS "B" RADIO-FREQUENCY POWER AMPLIFIER

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

|                                                | Typical Operation | Max. Ratings |
|------------------------------------------------|-------------------|--------------|
| D-C Plate Voltage                              | 2000              | 2500 volts   |
| D-C Grid Voltage                               | -80               | volts        |
| D-C Plate Current                              | 150               | 200 ma       |
| Plate Input                                    |                   | 320 watts    |
| Plate Dissipation                              |                   | 250 watts    |
| Peak R-F Grid Input Voltage                    | 125               | volts        |
| D-C Grid Current, approx.                      | 2                 | ma           |
| Driving Power, approx. (at crest of A-F cycle) | 10                | watts        |
| Plate Power Output                             | 105               | watts        |

## CLASS "C" RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR, PLATE MODULATED

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

|                             | Typical Operation | Max. Ratings |
|-----------------------------|-------------------|--------------|
| D-C Plate Voltage           | 2000              | 2200 volts   |
| D-C Grid Voltage            | -300              | -500 volts   |
| D-C Plate Current           | 250               | 275 ma       |
| D-C Grid Current            | 36                | 60 ma        |
| Plate Input                 |                   | 600 watts    |
| Plate Dissipation           |                   | 200 watts    |
| Peak R-F Grid Input Voltage | 490               | volts        |
| Driving Power               | 17                | watts        |
| Plate Power Output          | 385               | watts        |

## CLASS "C" RADIO-FREQUENCY POWER AMPLIFIER & OSCILLATOR

(Key down condition per tube without modulation. Modulation, essentially negative may be used if positive peak of A-F envelope does not exceed 115% of carrier conditions)

|                                        | Typical Operation | Max. Ratings |
|----------------------------------------|-------------------|--------------|
| D-C Plate Voltage                      | 3000              | 3000 volts   |
| D-C Grid Voltage                       | -400              | -500 volts   |
| D-C Plate Current                      | 250               | 275 ma       |
| D-C Grid Current, approx.              | 28                | 60 ma        |
| Plate Input                            |                   | 750 watts    |
| Plate Dissipation                      |                   | 250 watts    |
| Plate R-F Grid Input Voltage [approx.] | 590               | volts        |
| Driving Power, approx.                 | 16                | watts        |
| Plate Power Output                     | 600               | watts        |

## FREQUENCY LIMITS

The upper frequency limit at which the Type 4C34 tube may be operated at the ratings given above is 60 mc. It may be operated above this frequency if the plate voltage and power input are appropriately decreased as the operating frequency is increased and if adequate ventilation of the bulb is provided.

|                        | Percentage of Maximum Input |                      |                  |
|------------------------|-----------------------------|----------------------|------------------|
|                        | Class "B"                   | Class "C" plate mod. | Class "C" unmod. |
| Max. Frequency = 60 mc | 100%                        | 100%                 | 100%             |

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