

ELECTRONIC TUBE REFERENCE

77

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION  
CONSTRUCTION  
PENTODE

Classic sharp-cutoff pentode explicitly designed for radio RF amplification and detector service. Its high plate resistance provides substantial gain while manufacturer literature supports detector operation as a primary receiver function.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 8F                | BASE PINS            | 6             |
| NOMINAL HEATER      | 6.3 V / 300 mA    | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                                                                                                    |           |
|----------------------------------------------------------------------------------------------------|-----------|
| SECTION1 Pentode                                                                                   |           |
| PLATE RESISTANCE                                                                                   | 1000000 Ω |
| TRANSCONDUCTANCE                                                                                   | 0.00125 S |
| MAXIMUM PLATE VOLTAGE                                                                              | 300 V     |
| MAXIMUM SCREEN VOLTAGE                                                                             | 100 V     |
| MAXIMUM PLATE DISSIPATION                                                                          | 0.75 W    |
| MAXIMUM SCREEN DISSIPATION                                                                         | 0.1 W     |
| Published ratings and characteristics mapped semantically; identical repeated sections compressed. |           |

Fixed-slope RF pentode amplifier and detector.

## SOURCE OPERATING CONDITIONS

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# 1937 Raytheon Radio Receiving Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

## 1937 RAYTHEON RADIO RECEIVING TUBES

## Section 1 · Pentode

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Grid-to-plate capacitance | 0.007 pF        | Section1         |
| Input capacitance         | 4 pF            | Section1         |
| Output capacitance        | 11 pF           | Section1         |

| OTHER                |                 |                         |
|----------------------|-----------------|-------------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE        |
| Plate voltage        | 100 V           | ClassA                  |
| Screen voltage       | 60 V            | ClassA                  |
| Control-grid voltage | -1.5 V          | ClassA                  |
| Plate current        | 1.7 mA          | ClassA                  |
| Screen current       | 0.4 mA          | ClassA                  |
| Plate voltage        | 250 V           | ClassA                  |
| Screen voltage       | 100 V           | ClassA                  |
| Control-grid voltage | -3 V            | ClassA                  |
| Plate current        | 2.3 mA          | ClassA                  |
| Screen current       | 0.6 mA          | ClassA                  |
| Plate supply voltage | 100 V           | BiasedDetector          |
| Screen voltage       | 36 V            | BiasedDetector          |
| Cathode resistor     | 12500 Ω         | BiasedDetector          |
| Cathode current      | 0.155 mA        | BiasedDetector;NoSignal |
| Plate supply voltage | 250 V           | BiasedDetector          |
| Screen voltage       | 100 V           | BiasedDetector          |
| Cathode resistor     | 10000 Ω         | BiasedDetector          |

| PARAMETER       | PUBLISHED VALUE | CONDITION / NOTE        |
|-----------------|-----------------|-------------------------|
| Cathode current | 0.43 mA         | BiasedDetector;NoSignal |

| CHARACTERISTIC   |                    |                  |
|------------------|--------------------|------------------|
| PARAMETER        | PUBLISHED VALUE    | CONDITION / NOTE |
| Plate resistance | 650000 $\Omega$    | 100VPlate        |
| Transconductance | 1100 $\mu\text{S}$ | 100VPlate        |
| Plate resistance | 1500000 $\Omega$   | 250VPlate        |
| Transconductance | 1250 $\mu\text{S}$ | 250VPlate        |


SOURCE DATA APPENDIX

#### SOURCE OPERATING CONDITIONS

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## 1940 RCA

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1940 RCA

### Section 1 · Pentode

| APPLICATION |                               |                  |
|-------------|-------------------------------|------------------|
| PARAMETER   | PUBLISHED VALUE               | CONDITION / NOTE |
| Application | BiasedDetector_Amplifier text | —                |


SOURCE DATA APPENDIX

#### SOURCE OPERATING CONDITIONS

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## 195X General Electric Essential Characteristics

Published test conditions and operating points. Values on this page are preserved as reported by this source.

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

### Section 1 · Pentode

| OTHER                 |                 |                           |
|-----------------------|-----------------|---------------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE          |
| Maximum plate voltage | 300 V           | Published handbook rating |

| PARAMETER              | PUBLISHED VALUE | CONDITION / NOTE          |
|------------------------|-----------------|---------------------------|
| Maximum screen voltage | 100 V           | Published handbook rating |
| Plate voltage          | 250 V           | ClassA                    |
| Screen voltage         | 100 V           | ClassA                    |
| Control-grid bias      | 3 V             | ClassA                    |
| Plate current          | 2.3 mA          | ClassA                    |
| Screen current         | 0.5 mA          | ClassA                    |

| CHARACTERISTIC   |                 |                                   |
|------------------|-----------------|-----------------------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE                  |
| Plate resistance | 1000000 ohm     | Published handbook characteristic |
| Transconductance | 1250 $\mu$ S    | Published handbook characteristic |
| Heater voltage   | 6.3 V           | Published heater rating           |
| Heater current   | 300 mA          | Published heater rating           |



#### SOURCE OPERATING CONDITIONS

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# 1961 Tung Sol

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1961 TUNG SOL

## Section 1 · Pentode

| CAPACITANCE                  |                 |                  |
|------------------------------|-----------------|------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE |
| Grid To Cathode Capacitance  | 4.7 pF          | —                |
| Plate To Cathode Capacitance | 11 pF           | —                |
| Grid To Plate Capacitance    | 0.007 pF        | Maximum          |