



## ELECTRONIC TUBE REFERENCE

# 18FX6A

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

**1 SECTION**

CONSTRUCTION

**HEPTODE**

Miniature heptode frequency converter combining oscillator and mixer functions in one tube. Electrically related to the 18FX6 but with controlled heater characteristics, it is designed for low-current series-heater superheterodyne receivers.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | 7             |
| NOMINAL HEATER      | 18 V / 100 mA     | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                     |                 |
|---------------------------------------------------------------------|-----------------|
| <b>SECTION 1</b> Heptode                                            |                 |
| PLATE RESISTANCE                                                    | 400000 $\Omega$ |
| TRANSCONDUCTANCE                                                    | 0.00048 S       |
| AMPLIFICATION FACTOR                                                | 22              |
| MAXIMUM PLATE VOLTAGE                                               | 150 V           |
| MAXIMUM SCREEN VOLTAGE                                              | 110 V           |
| MAXIMUM PLATE DISSIPATION                                           | 1 W             |
| MAXIMUM SCREEN DISSIPATION                                          | 1.2 W           |
| MAXIMUM CATHODE CURRENT                                             | 24 mA           |
| <i>Pentagrid converter; oscillator data retained as parameters.</i> |                 |

The 18FX6A is a dual-control pentagrid converter/amplifier for AC/DC radio receivers, electrically equivalent to the 18FX6 except for controlled heater characteristics.



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 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 · Heptode

| CHARACTERISTIC                    |                 |                               |
|-----------------------------------|-----------------|-------------------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE              |
| Conversion Transconductance       | 480 uS          | SeparateExcitation            |
| OscillatorModeTransconductance    | 7000 uS         | Grid2AndGrid4ConnectedToPlate |
| OscillatorModeAmplificationFactor | 22              | Grid2AndGrid4ConnectedToPlate |

| OTHER              |                 |                  |
|--------------------|-----------------|------------------|
| PARAMETER          | PUBLISHED VALUE | CONDITION / NOTE |
| Heater Warmup Time | 20 s            | —                |



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1966 Tung Sol Electronic Tubes 3 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 3 OF 4

## Section 1 · Heptode

| CHARACTERISTIC               |                 |                  |
|------------------------------|-----------------|------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE |
| Grid 3-to-plate capacitance  | 0.25 pF         | WholeTube        |
| Grid 3-to-grid 1 capacitance | 0.15 pF         | WholeTube        |
| Input capacitance            | 7 pF            | WholeTube        |
| Output capacitance           | 13 pF           | WholeTube        |

| OTHER                                 |                 |                  |
|---------------------------------------|-----------------|------------------|
| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE |
| Maximum plate voltage                 | 150 V           | WholeTube        |
| Maximum grids 2 and 4 voltage         | 110 V           | WholeTube        |
| Maximum plate dissipation             | 1 W             | WholeTube        |
| Maximum grids 2 and 4 dissipation     | 1.2 W           | WholeTube        |
| Plate voltage                         | 200 V           | TypicalOperation |
| Grid 2 voltage                        | 100 V           | TypicalOperation |
| Grid 3 voltage                        | -1.5 V          | TypicalOperation |
| Plate current                         | 2.3 mA          | TypicalOperation |
| Grid 2 current                        | 6.2 mA          | TypicalOperation |
| Conversion transconductance           | 450 $\mu$ S     | TypicalOperation |
| Plate resistance                      | 400000 ohm      | TypicalOperation |
| Triode-connected transconductance     | 7000 $\mu$ S    | TypicalOperation |
| Triode-connected amplification factor | 22              | TypicalOperation |



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

## Section 1 · Heptode

| OTHER                 |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Heater voltage        | 18 V            | —                |
| Heater current        | 100 mA          | —                |
| Heater warm-up time   | 20 s            | ControlledWarmup |
| Maximum plate voltage | 150 V           | Converter        |
|                       |                 |                  |

| PARAMETER                                      | PUBLISHED VALUE | CONDITION / NOTE |
|------------------------------------------------|-----------------|------------------|
| Maximum screen supply voltage                  | 150 V           | Converter        |
| Screen voltage                                 | 110 V           | Converter        |
| Screen input                                   | 1.2 W           | Converter        |
| Plate dissipation                              | 1 W             | Converter        |
| Peak heater-cathode voltage<br>heater negative | 100 V           | —                |
| Peak heater-cathode voltage<br>heater positive | 100 V           | —                |
| Plate voltage                                  | 100 V           | Converter        |
| Screen voltage                                 | 100 V           | Converter        |
| Grid No.3 voltage                              | -1.5 V          | Converter        |
| Grid No.1 resistor                             | 20000 ohm       | Converter        |
| Plate current                                  | 2.3 mA          | Converter        |
| Screen current                                 | 6.2 mA          | Converter        |
| Oscillator grid current                        | 0.5 mA          | Converter        |
| Total cathode current                          | 9 mA            | Converter        |
| Oscillator cathode current                     | 24 mA           | Oscillator       |

| CHARACTERISTIC                                                |                 |                  |
|---------------------------------------------------------------|-----------------|------------------|
| PARAMETER                                                     | PUBLISHED VALUE | CONDITION / NOTE |
| Plate resistance                                              | 400000 ohm      | Converter        |
| Conversion transconductance                                   | 480 uS          | Converter        |
| Grid No.3 voltage for<br>conversion transconductance<br>10 uS | -21 V           | Converter        |
| Oscillator amplification<br>factor                            | 22              | Oscillator       |
| Oscillator transconductance                                   | 7000 uS         | Oscillator       |

| CAPACITANCE                       |                 |                  |
|-----------------------------------|-----------------|------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE |
| RF input capacitance grid<br>No.3 | 7 pF            | —                |
| Mixer output capacitance<br>plate | 8 pF            | WithoutShield    |
|                                   |                 |                  |

| PARAMETER                                 | PUBLISHED VALUE | CONDITION / NOTE |
|-------------------------------------------|-----------------|------------------|
| Oscillator input capacitance<br>grid No.1 | 5.5 pF          | —                |

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