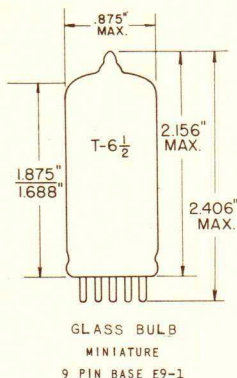


## TUNG-SOL

## REMOTE-CUTOFF PENTODE

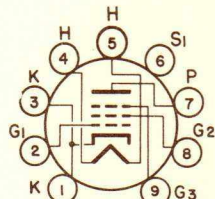
## MINIATURE TYPE



## UNIPOENTIAL CATHODE

HIGH  $G_m$ , SMALL SIGNAL  
RF & IF AMPLIFIER  
WITH GAIN CONTROL

## SERIES STRING OPERATION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 9AQ

THE 4EH7 IS A REMOTE-CUTOFF PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT FEATURES VERY HIGH  $G_m$  WITH A REMOTE CUTOFF AND IS DESIGNED FOR FREQUENCIES INTO THE VHF RANGE. ITS CHIEF APPLICATION IS IN THE IF AMPLIFIER STAGES OF TELEVISION RECEIVERS.

### DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

|                                         |        |    |
|-----------------------------------------|--------|----|
| GRID #1 TO PLATE: ( $G_1$ TO $P$ ) MAX. | 0.0055 | pf |
| INPUT: $G_1$ TO ( $H+G_2+G_3+K+1S$ )    | 9.5    | pf |
| OUTPUT: $P$ TO ( $H+G_2+G_3+K+1S$ )     | 2.8    | pf |

### HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

|                                |           |        |         |
|--------------------------------|-----------|--------|---------|
| AVERAGE CHARACTERISTICS        | 4.4 VOLTS | 450    | MA.     |
| HEATER SUPPLY LIMITS:          |           |        |         |
| CURRENT OPERATION              |           | 450±30 | MA.     |
| MAXIMUM HEATER CATHODE VOLTAGE |           | 165    | VOLTS   |
| HEATER WARM-UP TIME *          |           | 11     | SECONDS |

### MAXIMUM RATINGS

DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

|                            |      |        |
|----------------------------|------|--------|
| PLATE VOLTAGE              | 250. | VOLTS  |
| PLATE DISSIPATION          | 2.5  | WATTS  |
| GRID #2 VOLTAGE            | 250  | VOLTS  |
| GRID #2 DISSIPATION        | 0.65 | WATTS  |
| CATHODE CURRENT            | 20   | MA     |
| GRID #1 CIRCUIT RESISTANCE | 1    | MEGOHM |

\* HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CHARACTERISTICS

|                                                         |       |       |            |
|---------------------------------------------------------|-------|-------|------------|
| PLATE VOLTAGE                                           | 200   | 200   | VOLTS      |
| GRID #3 VOLTAGE                                         | 0     | 0     | VOLTS      |
| GRID #2 VOLTAGE (SUPPLY)                                | 90    | 200   | VOLTS      |
| GRID #2 SERIES RESISTOR                                 | 0     | 24    | KILOHMS    |
| GRID #1 VOLTAGE                                         | -2    | -2    | VOLTS      |
| PLATE CURRENT                                           | 12    | ---   | MA.        |
| GRID #2 CURRENT                                         | 4.5   | ---   | MA.        |
| TRANSCONDUCTANCE                                        | 12500 | 12500 | $\mu$ MHOS |
| PLATE RESISTANCE                                        | 0.5   | ---   | MEGOHMS    |
| GRID #1 IMPEDANCE AT 40 MC                              | 13    | ---   | KILOHMS    |
| GRID #1 CUTOFF: $E_{c1} = -6.5$                         |       | 1250  | $\mu$ MHOS |
| $E_{c1} = -9.5$                                         |       | 625   | $\mu$ MHOS |
| $E_{c1} = -19.5$                                        |       | 125   | $\mu$ MHOS |
| GRID #1 VOLTAGE FOR A CROSS-MODULATION<br>FACTOR OF 1%: |       |       |            |
| $E_{c1} = -6.5$                                         |       | 100   | MV.        |
| $E_{c1} = -9.5$                                         |       | 160   | MV.        |
| $E_{c1} = -19.5$                                        |       | 450   | MV.        |

