TUNG-SOL

BEAM PENTODE

FOR
HORIZONTAL-DEFLECTION-AMPLIFIER
CIRCUITS IN TELEVISION RECEIVERS

UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION

PIN #3 IS OMITTED WHEN 85-290 BASE IS USED

BOTTOM VIEW
BASE DIAGRAM
JEDEC SAW

THE 17GW6 IS A BEAM POWER PENTODE EMPLOYING A T-12 ENVELOP. IT IS DESIGNED ESPECIALLY FOR USE IN HORIZONTAL-DEFLECTION-AMPLIFIER CIRCUITS OF TELEVISION RECEIVERS WHICH OPERATE WITH LOW PLATE SUPPLY VOLTAGES.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.
WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE 0.5 pf
GRID #1 TO CATHODE, GRID #3, GRID #2 & HEATER 17 pf
PLATE TO CATHODE, GRID #3, GRID #2 & HEATER 7 pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS
HEATER WARM-UP TIME* 16.8 VOLTS 450 MA.

HEATER SUPPLY LIMITS:
CURRENT OPERATION 11 SECONDS

MAXIMUM PEAK HEATER-CATHODE VOLTAGE:
HEATER NEGATIVE WITH RESPECT TO CATHODE 450±30 MA.
HEATER POSITIVE WITH RESPECT TO CATHODE

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

HORIZONTAL-DEFLECTION AMPLIFIER

DC PLATE-SUPPLY VOLTAGE (BOOST + DC POWER SUPPLY) 770 VOLTS
PEAK POSITIVE-PULSE PLATE VOLTAGE 6500 VOLTS
PEAK NEGATIVE-PULSE PLATE VOLTAGE 1500 VOLTS
DC GRID #2 VOLTAGE 220 VOLTS
DC GRID #1 VOLTAGE -55 VOLTS

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MAXIMUM RATINGS—CONT'D.

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

PEAK NEGATIVE-PULSE GRID #1 VOLTAGE 330 VOLTS
CATHODE CURRENT:
  PEAK 550 MA.
  AVERAGE 175 MA.
PLATE DISSIPATION 17.5 WATTS
GRID #2 INPUT 3.5 WATTS
BULB TEMPERATURE (AT HOTTEST POINT ON BULB SURFACE) 240 °C

MAXIMUM CIRCUIT VALUES:
GRID #1 CIRCUIT RESISTANCE 1.0 MEGOHM

CHARACTERISTICS
CLASS A1 AMPLIFIER

PLATE VOLTAGE 60 250 VOLTS
GRID #2 VOLTAGE 150 150 VOLTS
GRID #1 VOLTAGE 0 -22.5 VOLTS
MU-FACTOR, GRID #2 TO GRID #1 WITH PLATE CONNECTED TO GRID #2, PLATE VOLTS =
  GRID #2 VOLTS =150, AND GRID #1 VOLTS = 22.5
  --- 4.4
PLATE RESISTANCE (APPROX.) --- 15000 OHMS
TRANSCONDUCTANCE --- 7100 JANHOS
PLATE CURRENT 390b 70 MA.
GRID #2 CURRENT 32b 2.1 MA.
GRID #1 VOLTAGE (APPROX.) FOR PLATE CURRENT OF 1 MA. 42 VOLTS

*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 TYPE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

A. THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

B. FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE. 15% OF ONE HORIZONTAL SCANNING CYCLE IS 10 MICROSECONDS.

C. IN STAGES OPERATING WITH GRID-RESISTOR BIAS, AN ADEQUATE CATHODE-BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

D. THESE VALUES CAN BE MEASURED BY A METHOD INVOLVING A RECURRENT WAVE FORM SUCH THAT THE CATHODE CURRENT WILL BE KEPT WITHIN RATINGS IN ORDER TO PREVENT DAMAGE TO THE TUBE.

SIMILAR TYPE REFERENCE:
Except for heater characteristics, the 17GW6 is identical to the 6GW6 and the 12GW6.