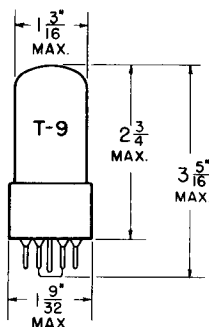


## TUNG-SOL

## BEAM PENTODE

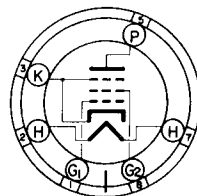


GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER  
25 VOLTS 300 MA.  
AC OR DC

ANY MOUNTING POSITION



**BOTTOM VIEW**  
INTERMEDIATE SHELL  
6 PIN OCTAL  
6CK

THE 25AV5GT IS A BEAM POWER AMPLIFIER INTENDED PRIMARILY FOR OPERATION WITH RELATIVELY LOW SUPPLY VOLTAGE AS A HORIZONTAL DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS. IT IS DESIGNED TO WITHSTAND HIGH-SURGE PLATE VOLTAGES FOR RELATIVELY SHORT PERIODS OF TIME. IT CAN BE USED WITH DIRECT OR WITH TRANSFORMER HORIZONTAL-YOKE DRIVE.

## RATINGS

INTERPRETED ACCORDING TO RMA STANDARD M8-210

## HORIZONTAL DEFLECTION AMPLIFIER

|                                                                     |       |        |
|---------------------------------------------------------------------|-------|--------|
| HEATER VOLTAGE                                                      | 25    | VOLTS  |
| MAXIMUM HEATER-CATHODE VOLTAGE                                      | 180   | VOLTS  |
| MAXIMUM PLATE SUPPLY VOLTAGE                                        | 550   | VOLTS  |
| MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE <sup>A</sup> <sup>B</sup> | 5 500 | VOLTS  |
| MAXIMUM GRID #2 VOLTAGE                                             | 200   | VOLTS  |
| MAXIMUM GRID #1 VOLTAGE                                             | -100  | VOLTS  |
| MAXIMUM PEAK NEGATIVE PULSE GRID #1 VOLTAGE <sup>A</sup>            | -400  | VOLTS  |
| MAXIMUM PLATE DISSIPATION                                           | 11    | WATTS  |
| MAXIMUM GRID #2 DISSIPATION                                         | 2.5   | WATTS  |
| MAXIMUM PLATE CURRENT                                               | 100   | MA.    |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE <sup>C</sup>                     | 1     | MEGOHM |

<sup>A</sup> THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE AND THE DURATION OF THE PULSE MUST BE LIMITED TO 10 MICROSECONDS.

<sup>B</sup> VALUE GIVEN IS TO BE CONSIDERED AS THE ABSOLUTE VOLTAGE BEYOND WHICH THE SERVICEABILITY OF THE TUBE MAY BE IMPAIRED.

<sup>C</sup> THE USE OF A CATHODE RESISTOR OR OTHER SUITABLE PROTECTIVE DEVICE IS NECESSARY TO PROTECT THE TUBE IN EVENT OF LOSS OF EXCITATION AND CONSEQUENT LOSS OF DEVELOPED BIAS.

CONTINUED ON FOLLOWING PAGE

→ INDICATES A CHANGE OR ADDITION.

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

|                                                      |       |       |
|------------------------------------------------------|-------|-------|
| HEATER VOLTAGE                                       | 25    | VOLTS |
| HEATER CURRENT                                       | 300   | MA.   |
| PLATE VOLTAGE                                        | 250   | VOLTS |
| GRID #2 VOLTAGE                                      | 150   | VOLTS |
| GRID #1 VOLTAGE                                      | -22.5 | VOLTS |
| TRANSCONDUCTANCE                                     | 5 800 | μMHOS |
| PLATE CURRENT                                        | 55    | MA.   |
| GRID #2 CURRENT                                      | 2.1   | MA.   |
| GRID #2 TO GRID #1 AMPLIFICATION FACTOR <sup>D</sup> | 4.5   |       |

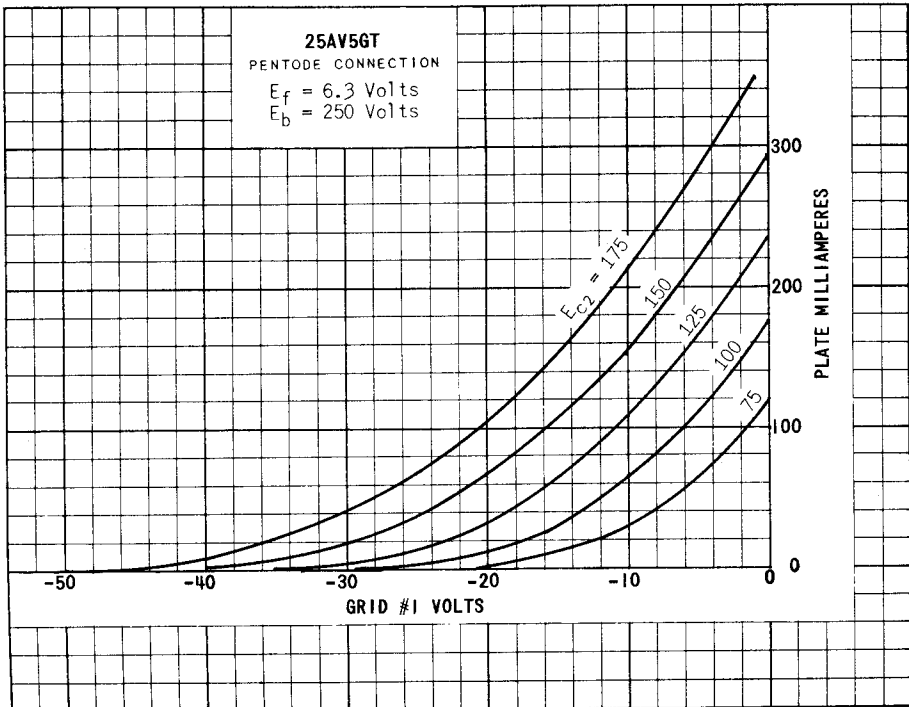
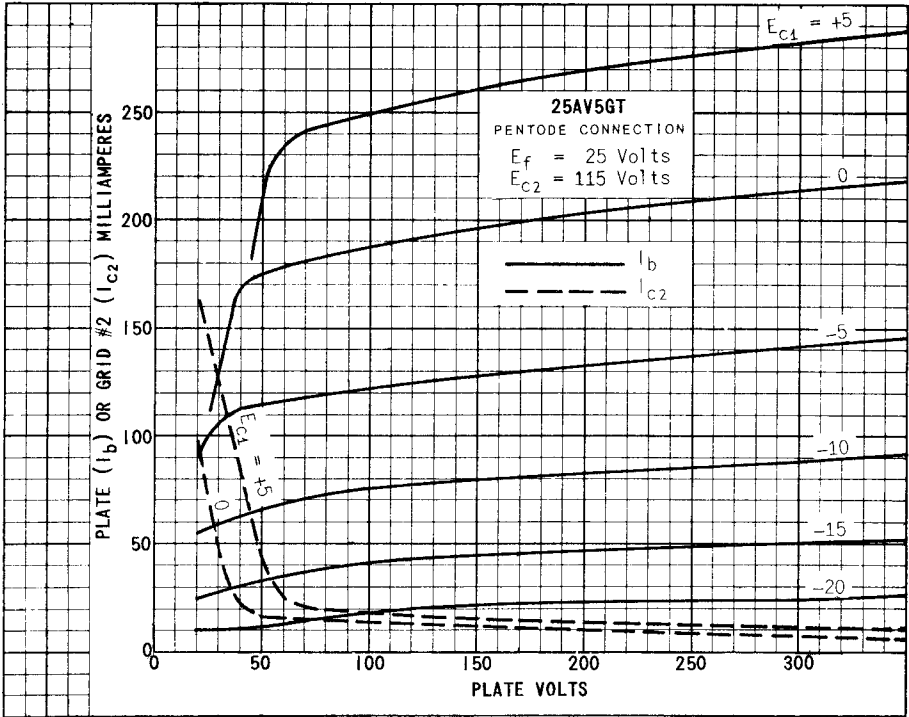
<sup>D</sup> TRIODE CONNECTION (SCREEN TIED TO PLATE) WITH  $E_b = E_{c2} = 150$  VOLTS AND  $E_{c1} = -22.5$  VOLTS.

## HORIZONTAL DEFLECTION AMPLIFIER

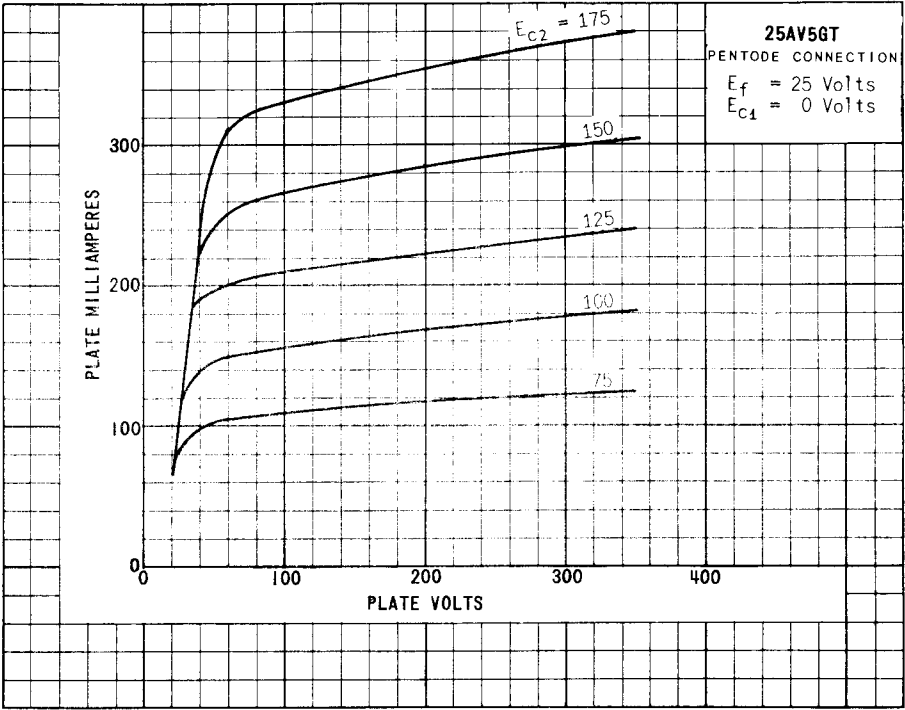
|                                             | 8AP4A            | 12KP4A            | 16KP4             |         |
|---------------------------------------------|------------------|-------------------|-------------------|---------|
| HEATER VOLTAGE                              | 25               | 25                | 25                | VOLTS   |
| HEATER CURRENT                              | 300              | 300               | 300               | MA.     |
| TOTAL PLATE VOLTAGE                         | 240              | 370               | 410               | VOLTS   |
| PLATE SUPPLY VOLTAGE                        | 150              | 250               | 250               | VOLTS   |
| BOOST VOLTAGE                               | 90               | 120               | 160               | VOLTS   |
| GRID #2 SUPPLY VOLTAGE                      | 150              | 250               | —                 | VOLTS   |
| GRID #2 RESISTOR                            | 1000             | 10 000            | —                 | OHMS    |
| GRID #2 VOLTAGE                             | 135              | 165               | 122               | VOLTS   |
| CATHODE BIAS RESISTOR                       | 0                | 0                 | 0                 | OHMS    |
| GRID #1 RESISTOR                            | 0.22             | 0.47              | 1                 | MEGOHM  |
| PEAK-TO-PEAK GRID SIGNAL VOLTAGE (APPROX.)  | 90               | 90                | 220               | VOLTS   |
| PEAK POSITIVE PULSE PLATE VOLTAGE (APPROX.) | 2.9              | 3.6               | 4.3               | KV.     |
| PLATE CURRENT                               | 84               | 89                | 87                | MA.     |
| GRID #2 CURRENT                             | 15               | 8.5               | 15                | MA.     |
| GRID #1 CURRENT                             | 66               | 40                | 64                | μA.     |
| PICTURE TUBE ANODE VOLTAGE                  | 8.7 <sup>E</sup> | 10.8 <sup>F</sup> | 12.8 <sup>F</sup> | KV.     |
| DEFLECTION ANGLE                            | 54               | 54                | 65                | DEGREES |
| SWEEP WIDTH                                 | 7 3/4            | 11 1/2            | 13 1/2            | INCHES  |

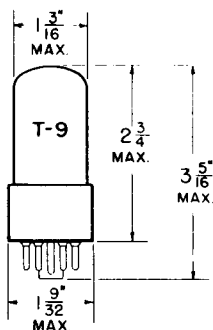
<sup>E</sup> MEASURED WITH 75 MICROAMPERES TOTAL PICTURE TUBE DRAIN.

<sup>F</sup> MEASURED WITH 100 MICROAMPERES TOTAL PICTURE TUBE DRAIN.



25AV5GT (6AV5GT)



**TUNG-SOL****BEAM PENTODE****GLASS BULB**

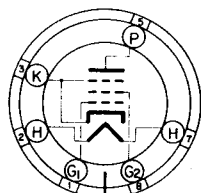
COATED UNIPOTENTIAL CATHODE

HEATER

25 VOLTS 0.3 AMP.

AC OR DC

ANY MOUNTING POSITION

**BOTTOM VIEW**INTERMEDIATE SHELL  
6 PIN OCTAL

6CK

THE 25AV5GT IS A BEAM POWER AMPLIFIER INTENDED PRIMARILY FOR OPERATION WITH RELATIVELY LOW SUPPLY VOLTAGE AS A HORIZONTAL DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS. IT IS DESIGNED TO WITHSTAND HIGH-SURGE PLATE VOLTAGES FOR RELATIVELY SHORT PERIODS OF TIME. IT CAN BE USED WITH DIRECT OR WITH TRANSFORMER HORIZONTAL-YOKE DRIVE.

**DIRECT INTERELECTRODE CAPACITANCES**GRID #1 TO PLATE: ( $G_1$  TO P)0.7  $\mu\text{f}$ INPUT:  $G_1$  TO ( $H+K+G_2+G_3$ )14  $\mu\text{f}$ OUTPUT: P TO ( $H+K+G_2+G_3$ )7.0  $\mu\text{f}$ **RATINGS**

INTERPRETED ACCORDING TO RMA STANDARD MB-210

HORIZONTAL DEFLECTION AMPLIFIER<sup>A</sup>

|                                                        |                  |            |
|--------------------------------------------------------|------------------|------------|
| HEATER VOLTAGE                                         | 6.3              | VOLTS      |
| MAXIMUM HEATER CATHODE VOLTAGE:                        |                  |            |
| HEATER NEGATIVE WITH RESPECT TO CATHODE:               |                  |            |
| TOTAL DC AND PEAK                                      | 200              | VOLTS      |
| HEATER POSITIVE WITH RESPECT TO CATHODE:               |                  |            |
| DC                                                     | 100              | VOLTS      |
| TOTAL DC AND PEAK                                      | 200              | VOLTS      |
| MAXIMUM DC PLATE SUPPLY VOLTAGE (BOOST + POWER SUPPLY) | 550              | VOLTS      |
| MAXIMUM PEAK POSITIVE PLATE VOLTAGE (ABSOLUTE MAXIMUM) | 5 500            | VOLTS      |
| MAXIMUM PEAK NEGATIVE PLATE VOLTAGE                    | 1 250            | VOLTS      |
| MAXIMUM PLATE DISSIPATION <sup>B</sup>                 | 11               | WATTS      |
| MAXIMUM PEAK NEGATIVE GRID #1 VOLTAGE                  | 300              | VOLTS      |
| MAXIMUM DC GRID #2 VOLTAGE                             | 175              | VOLTS      |
| MAXIMUM GRID #2 DISSIPATION                            | 2.5              | WATTS      |
| MAXIMUM AVERAGE CATHODE CURRENT                        | 110              | MA.        |
| MAXIMUM PEAK CATHODE CURRENT                           | 400              | MA.        |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE                     | 0.47             | MEGOHM     |
| MAXIMUM BULB TEMPERATURE (AT HOTTEST POINT)            | 210 <sup>0</sup> | CENTIGRADE |

<sup>A</sup> FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCASTING STATIONS; FEDERAL COMMUNICATIONS COMMISSION". THE DUTY CYCLE OF THE VOLTAGE PULSE NOT TO EXCEED 15 PERCENT OF A SCANNING CYCLE.

<sup>B</sup> IN STAGES OPERATING WITH GRID-LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

|                                          |        |       |   |
|------------------------------------------|--------|-------|---|
| HEATER VOLTAGE                           | 6.3    | VOLTS |   |
| HEATER CURRENT                           | 1.2    | AMP.  |   |
| PENTODE OPERATION: <sup>C</sup>          |        |       |   |
| PLATE CURRENT                            | 55     | MA.   |   |
| GRID #2 CURRENT                          | 2.1    | MA.   |   |
| TRANSCONDUCTANCE                         | 5 500  | UMHOS | ← |
| PLATE RESISTANCE                         | 20 000 | OHMS  | ← |
| ZERO-BIAS: <sup>D</sup>                  |        |       |   |
| PLATE CURRENT                            | 225    | MA.   | ← |
| GRID #2 CURRENT                          | 25     | MA.   | ← |
| CUT-OFF: <sup>E</sup>                    |        |       |   |
| GRID #1 VOLTAGE (APPROX.)                | -46    | VOLTS | ← |
| TRIODE AMPLIFICATION FACTOR <sup>F</sup> | 4.3    |       | ← |

<sup>C</sup> WITH  $E_b = 250$  VOLTS,  $E_{c2} = 150$  VOLTS AND  $E_{c1} = -22.5$  VOLTS.<sup>D</sup> WITH  $E_b = 60$  VOLTS AND  $E_{c2} = 150$  VOLTS (INSTANTANEOUS VALUES).<sup>E</sup> FOR  $I_b = 1$  MA. WITH  $E_b = 250$  VOLTS AND  $E_{c2} = 150$  VOLTS.<sup>F</sup> WITH  $E_b = E_{c2} = 150$  VOLTS AND  $E_{c1} = -22.5$  VOLTS.

→ INDICATES A CHANGE OR ADDITION.

