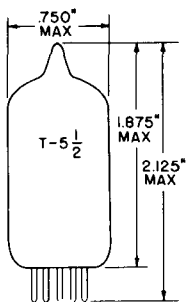


TUNG-SOL



GLASS BULB
MINIATURE BUTTON
7 PIN BASE E7-1
OUTLINE DRAWING
JEDEC 5-2

PENTODE

MINIATURE TYPE

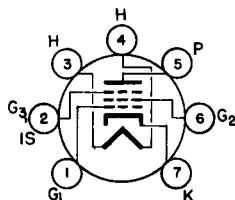
COATED UNIPOTENTIAL CATHODE

HEATER

3.15 VOLTS 600±40 MA.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 7BK

THE 3AU6 IS A PENTODE AMPLIFIER WITH SHARP CUT-OFF CONTROL CHARACTERISTICS. USING THE 7 PIN MINIATURE CONSTRUCTION, IT IS DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED RECEIVERS. WITH HIGH TRANSCONDUCTANCE AND LOW GRID PLATE CAPACITANCE, IT IS INTENDED FOR SERVICE AS EITHER AN RF OR AF AMPLIFIER. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. WITH THE EXCEPTION OF HEATER RATINGS, ITS CHARACTERISTICS ARE IDENTICAL TO TYPE 6AU6.

DIRECT INTERELECTRODE CAPACITANCES

PENTODE CONNECTION:

GRID TO PLATE: (G_1 TO P) MAX.INPUT: G_1 TO (H+K+ G_2 + G_3 &IS)OUTPUT: P TO (H+K+ G_2 + G_3 &IS)

TRIODE CONNECTION:

GRID TO PLATE: G_1 TO (P+ G_2 + G_3 &IS)INPUT: G_1 TO (H+K)OUTPUT: (P+ G_2 + G_3 &IS) TO (H+K)WITH
SHIELD^AWITHOUT
SHIELD

0.003

0.003

pf

5.5

5.5

pf

5

5

pf

2.6

2.6

pf

3.2

3.2

pf

8.5

1.2

pf

^A SHIELD #316 CONNECTED TO PIN #7.

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

TRIODE^C CONNECTION PENTODE^C CONNECTION

MAXIMUM HEATER-CATHODE VOLTAGE:

HEATER NEGATIVE WITH RESPECT TO CATHODE

200

200

VOLTS

HEATER POSITIVE WITH RESPECT TO CATHODE

200^{*}200^{*}

VOLTS

MAXIMUM PLATE VOLTAGE

275

330

VOLTS

MAXIMUM GRID #2 SUPPLY VOLTAGE

330

VOLTS

MAXIMUM GRID #2 VOLTAGE

SEE J5-C4-2

MAXIMUM GRID #3 VOLTAGE PIN #2 CONNECTED TO:

PLATE

CATHODE

MAXIMUM PLATE DISSIPATION

3.5

3.5

WATTS

MAXIMUM GRID #2 DISSIPATION

WATTS

MAXIMUM GRID #2 INPUT:^{*}

FOR GRID #2 VOLTAGES UP TO 165 VOLTS

0.75

WATT

FOR GRID #2 VOLTAGES BETWEEN 165 VOLTS
AND 330 VOLTS^{*}

SEE J5-C4-2

MAXIMUM POSITIVE DC GRID #1 VOLTAGE

0

0

VOLTS

HEATER WARM-UP TIME (APPROX.)^{*}

11.0

SECONDS

→ INDICATES A CHANGE.

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER - PENTODE CONNECTION

PLATE VOLTAGE	100	250	250	VOLTS
GRID #2 VOLTAGE	100	125	150	VOLTS
CATHODE BIAS RESISTOR	150	100	68	OHMS
GRID #3 VOLTAGE	PIN #2 CONNECTED TO PIN #7 AT SOCKET			
TRANSCONDUCTANCE	3 900	4 500	5 200	μMHOS
PLATE CURRENT	5	7.6	10.6	MA.
GRID #2 CURRENT	2.1	3	4.3	MA.
PLATE RESISTANCE (APPROX.)	0.5	1.5	1	MEGOHMS
GRID #1 VOLTAGE (APPROX.) FOR $I_b = 10 \mu A$.	-4.2	-5.5	-6.5	VOLTS

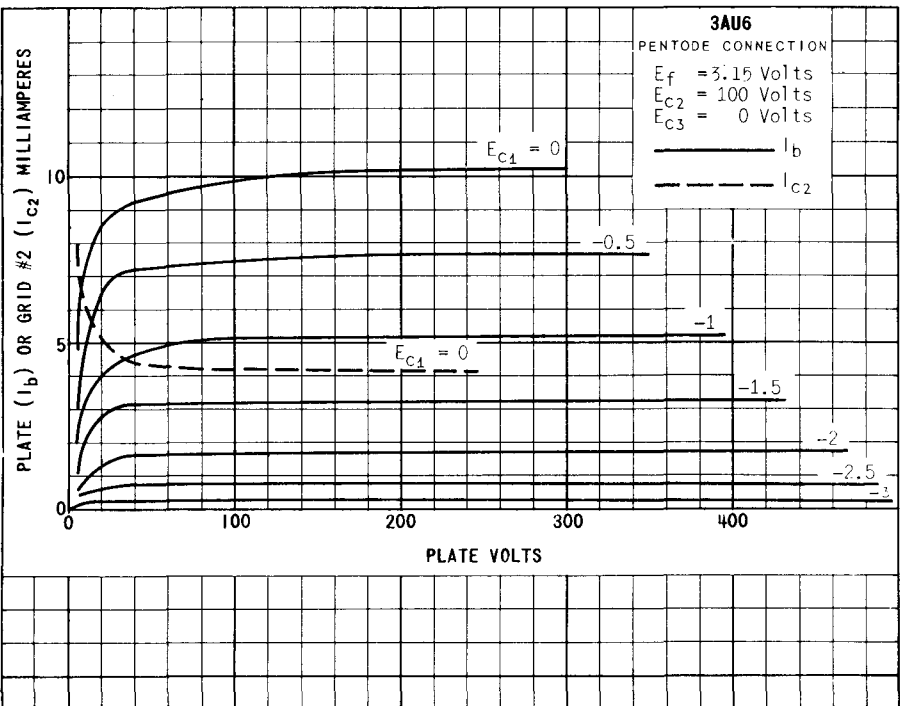
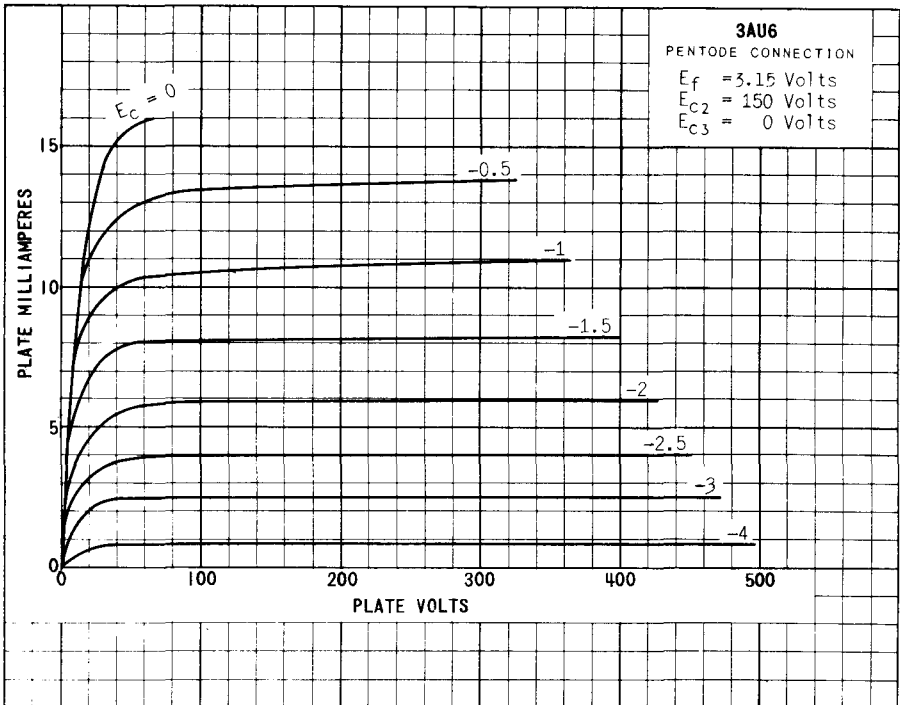
CLASS A₁ AMPLIFIER - TRIODE CONNECTION^C

PLATE VOLTAGE	250	VOLTS
GRID #2 VOLTAGE	PLATE	
CATHODE RESISTOR	330	OHMS
GRID #3 VOLTAGE	PLATE	
TRANSCONDUCTANCE	4 800	μMHOS
PLATE CURRENT	12.2	MA.
AMPLIFICATION FACTOR	.36	

^C TRIODE CONNECTION: GRID #2 AND GRID #3 CONNECTED TO PLATE.

*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.

• THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.



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3AU6

