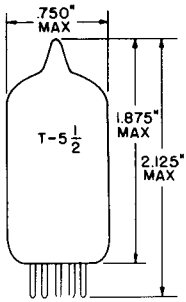
TUNG-SOL



GLASS BULB

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

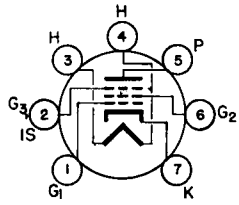
PENTODE

MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER
6.3± 0.6 VOLTS 300 MA.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 7BK

THE 6AU6 AND 6AU6A ARE PENTODE AMPLIFIERS HAVING A SHARP CUTOFF CONTROL CHARACTERISTIC. WITH HIGH TRANSCONDUCTANCE AND LOW GRID TO PLATE CAPACITANCE THEY ARE INTENDED FOR SERVICE AS EITHER RF OR AF AMPLIFIERS. IN ADDITION, THERMAL CHARACTERISTICS OF THE HEATER OF THE 6AU6A 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. EXCEPT FOR THE CONTROLLED HEATER WARM-UP TIME AND HIGHER HEATER-CATHODE VOLTAGE RATINGS OF THE 6AU6A, THE TWO TUBES ARE IDENTICAL.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD[A]	WITHOUT SHIELD	
PENTODE CONNECTION:			
GRID TO PLATE: (G_1 TO P) MAX.	0.003	0.003	pf
INPUT: G_1 TO (H+K+G_2+G_3&IS)	5.5	5.5	pf
OUTPUT: P TO (H+K+G_2+G_3&IS)	5	5	pf
TRIODE CONNECTION:			
GRID TO PLATE: G_1 TO (P+G_2+G_3&IS)	2.6	2.6	pf
INPUT: G_1 TO (H+K)	3.2	3.2	pf
OUTPUT: (P+G_2+G_3&IS) TO (H+K)	8.5	1.2	pf

[A] SHIELD #316 CONNECTED TO PIN #7.

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	TRIODE CONNECTION[C]	PENTODE 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: *			VOLTS
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.) * (6AU6A ONLY)		11.0	SECONDS

→ INDICATES A CHANGE.

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 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 µA.	-4.2	-5.5	-6.5	VOLTS

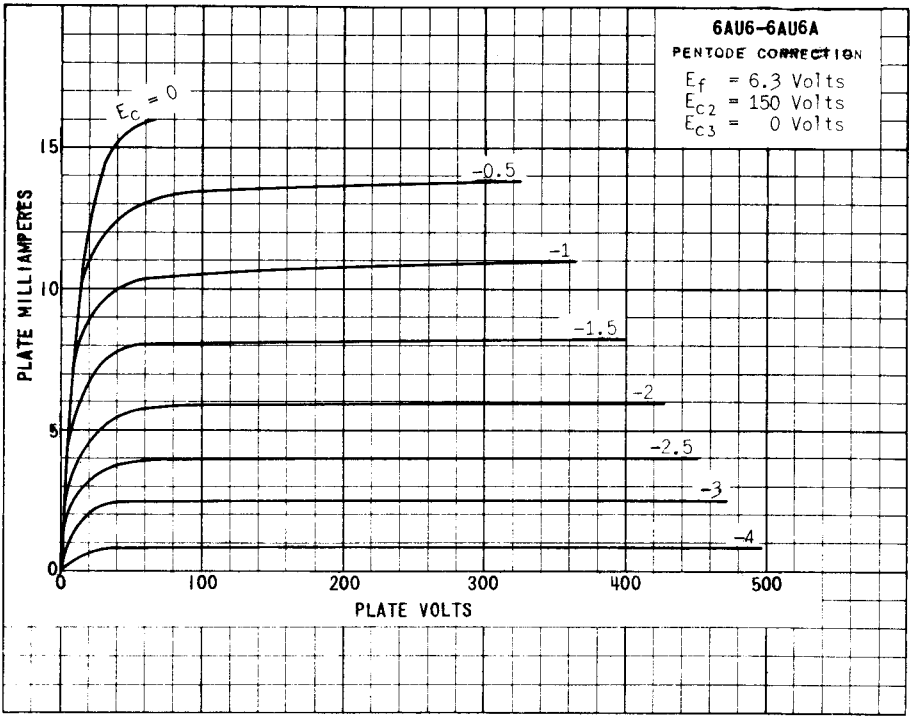
CLASS A_1 AMPLIFIER – TRIODE CONNECTION[C]

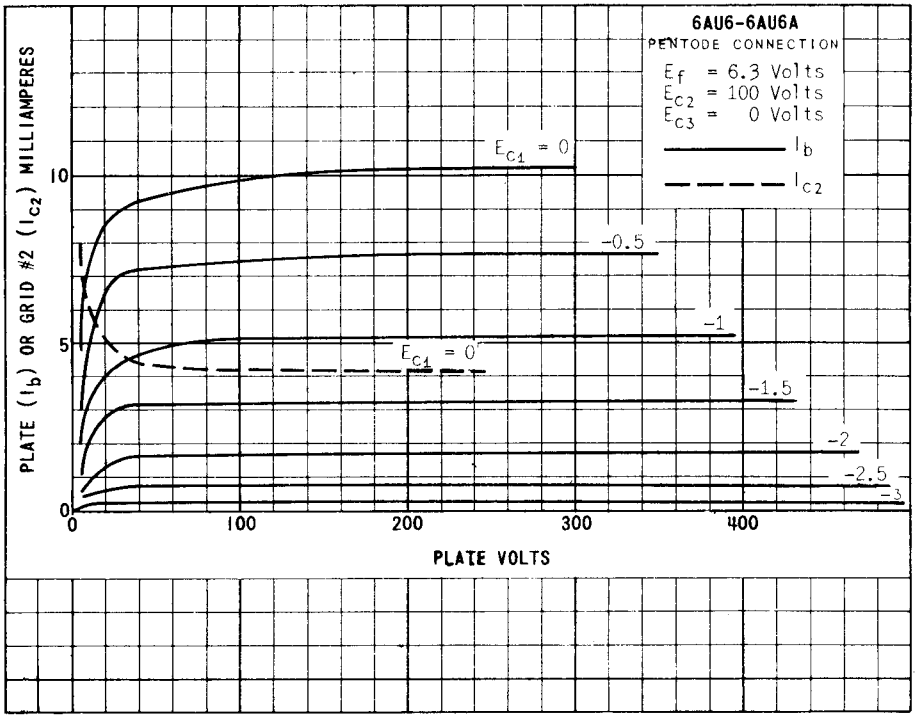
PLATE VOLTAGE	250	VOLTS
GRID #2 VOLTAGE	PLATE	
CATHODE RESISTOR	330	OHMS
GRID #3 VOLTAGE	PLATE	
TRANSCONDUCTANCE	4 800	µMHOS
PLATE CURRENT	12.2	MA.
AMPLIFICATION FACTOR	36	

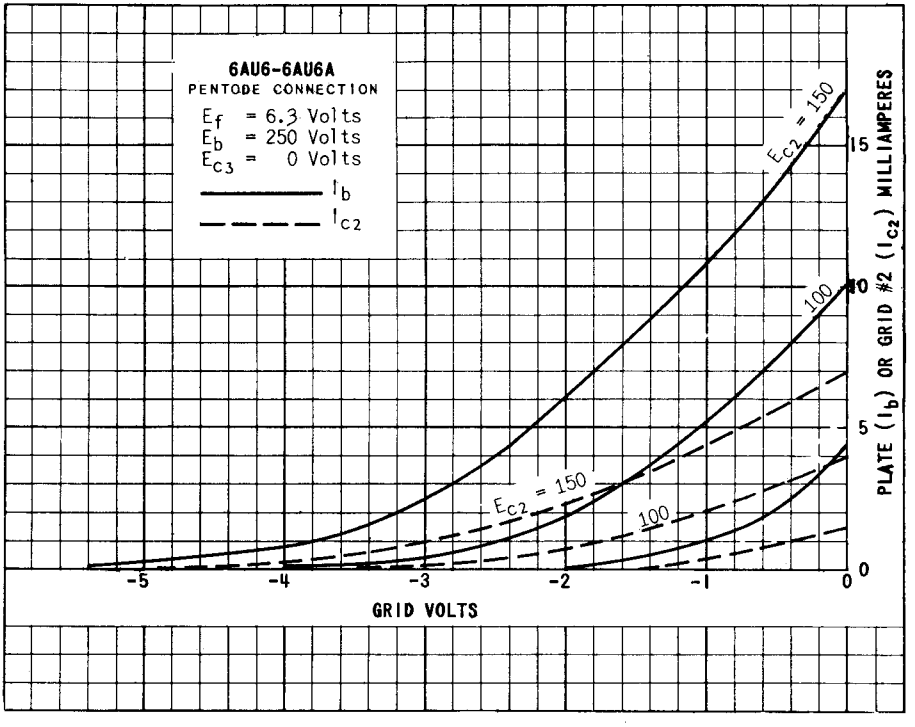
[C] TRIODE CONNECTION: GRID #2 AND GRID #3 CONNECTED TO PLATE.

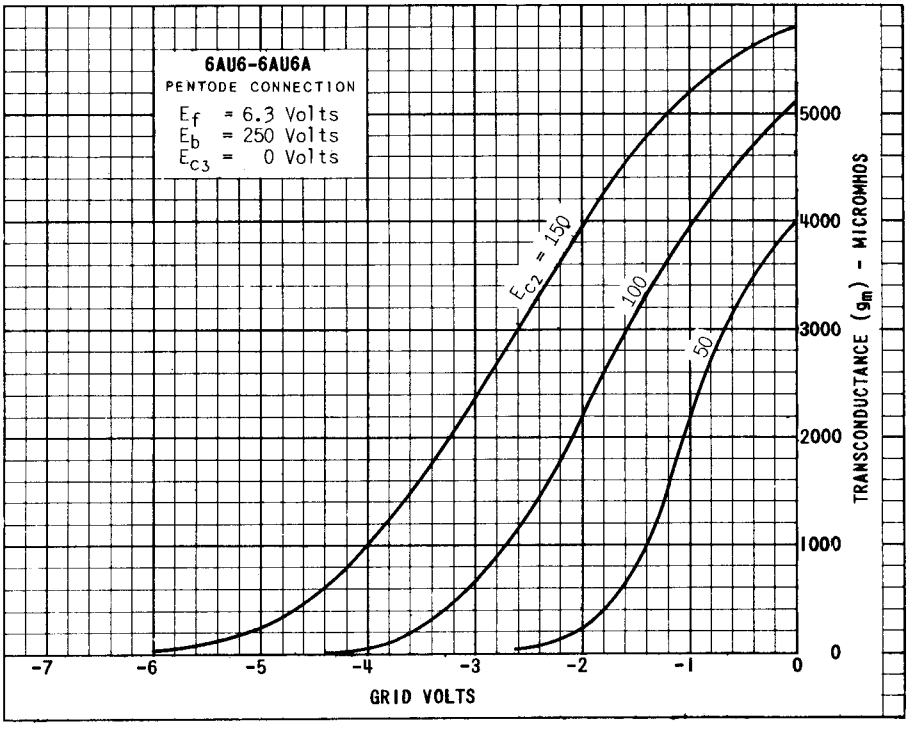
*HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.






6AU6-6AU6A
PENTODE CONNECTION
Ef = 6.3 Volts
Eb = 250 Volts
Ec3 = 0 Volts
Ib
Ic2
Ec2 = 150
100
Ec2 = 150
100
-5
-4
-3
-2
-1
0
15
10
5
0
GRID VOLTS
PLATE (Ib) OR GRID #2 (Ic2) MILLIAMPERES


6AU6-6AU6A
PENTODE CONNECTION
Ef = 6.3 Volts
Eb = 250 Volts
Ec3 = 0 Volts
Ec2 = 150
100
50
-7
-6
-5
-4
-3
-2
-1
0
5000
4000
3000
2000
1000
0
GRID VOLTS
TRANSCONDUCTANCE (gm) - MICROMHOS