

TUNG-SOL

TRIODE

MINIATURE TYPE

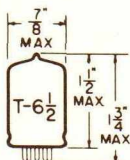
COATED UNIPOTENTIAL CATHODE

HEATER

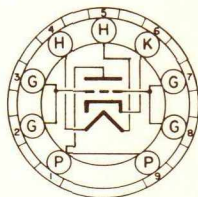
6.3 VOLTS 0.225 AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW

SMALL BUTTON
9 PIN BASE

90R

THE 6BC4 IS A UHF MEDIUM-MU TRIODE OF THE 9-PIN MINIATURE TYPE UTILIZING A VERY SHORT BULB. IT IS DESIGNED FOR USE AS AN RF AMPLIFIER IN THE CATHODE-DRIVE CIRCUITS OF UHF TELEVISION TUNERS COVERING THE FREQUENCY RANGE OF 470 TO 890 MEGACYCLES PER SECOND.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

WITH NO EXTERNAL SHIELD

GRID TO PLATE	1.6	μμf
GRID TO HEATER AND CATHODE	2.9	μμf
PLATE TO HEATER AND CATHODE	0.26	μμf
HEATER TO CATHODE	2.7	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

CLASS A₁ AMPLIFIER

HEATER VOLTAGE	6.3	VOLTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	75	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	75	VOLTS
MAXIMUM PLATE VOLTAGE	250	VOLTS
MAXIMUM PLATE DISSIPATION	2.5	WATTS
MAXIMUM CATHODE CURRENT	25	MA.
MAXIMUM GRID #1 CIRCUIT RESISTANCE:		
FOR CATHODE-BIAS OPERATION	0.5	MEG OHM
FOR FIXED-BIAS OPERATION		

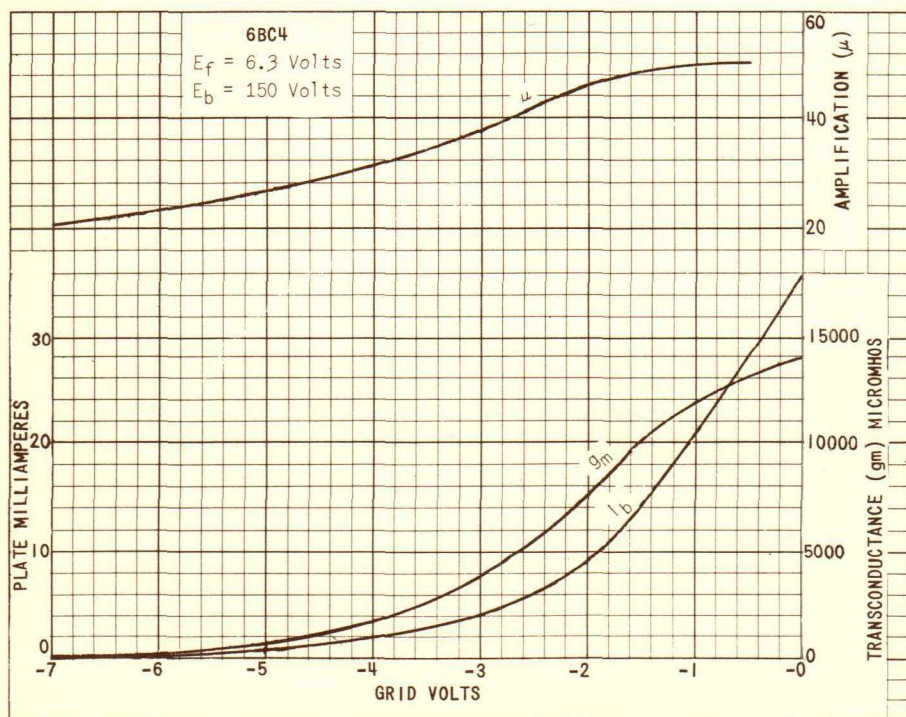
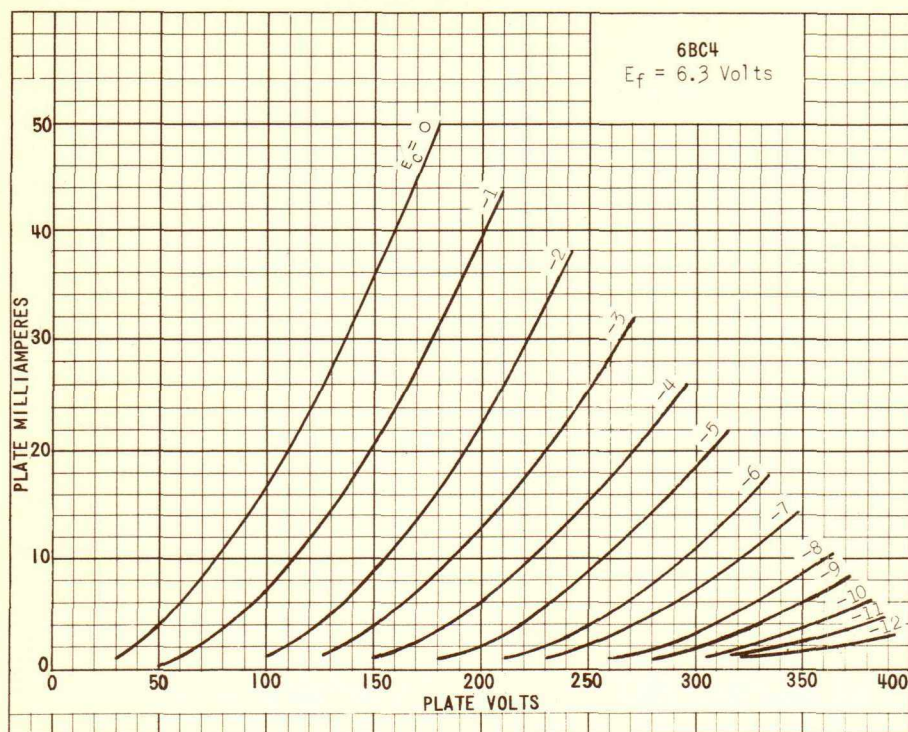
NOT RECOMMENDED

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

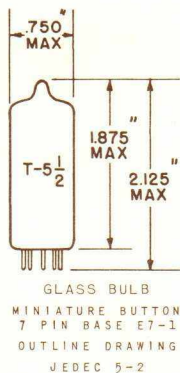
CLASS A₁ AMPLIFIER

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.225	AMP.
PLATE SUPPLY VOLTAGE	150	VOLTS
CATHODE-BIAS RESISTOR	100	OHMS
AMPLIFICATION FACTOR	48	
PLATE RESISTANCE	4800	OHMS
TRANSCONDUCTANCE	10000	μMHOS
GRID BIAS (APPROX.) FOR PLATE CURRENT OF 10 μAMP	-10	VOLTS
PLATE CURRENT	14.5	MA

6BC4



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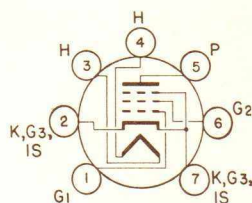
PENTODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HIGH FREQUENCY INTERMEDIATE

AND RF AMPLIFIER

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 7BD

THE 6BC5 IS A HIGH TRANSCONDUCTANCE PENTODE VOLTAGE AMPLIFIER USING THE 7 PIN MINIATURE CONSTRUCTION. IT IS USEFUL AS AN RF AMPLIFIER UP TO ABOUT 400 MC. AND AS A HIGH-FREQUENCY INTERMEDIATE AMPLIFIER.

DIRECT INTERELECTRODE CAPACITANCES

PENTODE CONNECTION:

GRID TO PLATE: (G1 TO P) MAX.

INPUT: G1 TO (H+K+G2+G3 & I.S.)

OUTPUT: P TO (H+K+G2+G3 & I.S.)

	WITH SHIELD	WITHOUT SHIELD	
→	0.020	→ 0.030	pf
	6.6	6.5	pf
→	2.6	1.8	pf

TRIODE CONNECTION: (G2 TIED TO PLATE)

GRID TO PLATE: G1 TO (P+G2)

INPUT: G1 TO (H+K+G3 & I.S.)

OUTPUT: (P+G2) TO (H+K+G3 & I.S.)

→	2.5	2.5	pf
	4.0	3.9	pf
→	4.3	3.0	pf

A

EXTERNAL SHIELD #316 CONNECTED TO PIN #7.

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	300	MA.
HEATER SUPPLY LIMITS:			
VOLTAGE OPERATION		6.3±0.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE	→	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		200 ^B	VOLTS

B

DC COMPONENT MUST NOT EXCEED 100 VOLTS.

→ INDICATES A CHANGE.

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	TRIODE ^C	PENTODE	
PLATE VOLTAGE	330	330	VOLTS
GRID #2 VOLTAGE	PLATE	SEE RATING CHART	
GRID #2 SUPPLY VOLTAGE	PLATE	330	VOLTS
PLATE DISSIPATION	2.9 ^C	2.3	WATTS
GRID #2 DISSIPATION	---		WATT
GRID #1 VOLTAGE (POSITIVE BIAS VALUE)	0	0	VOLT
GRID #2 DISSIPATION			
FOR VOLTAGES UP TO 165 V.	---	.55	WATTS
FOR VOLTAGES BETWEEN 165 & 330 V.	---	SEE RATING CHART	

→ TYPICAL OPERATING CHARACTERISTICS

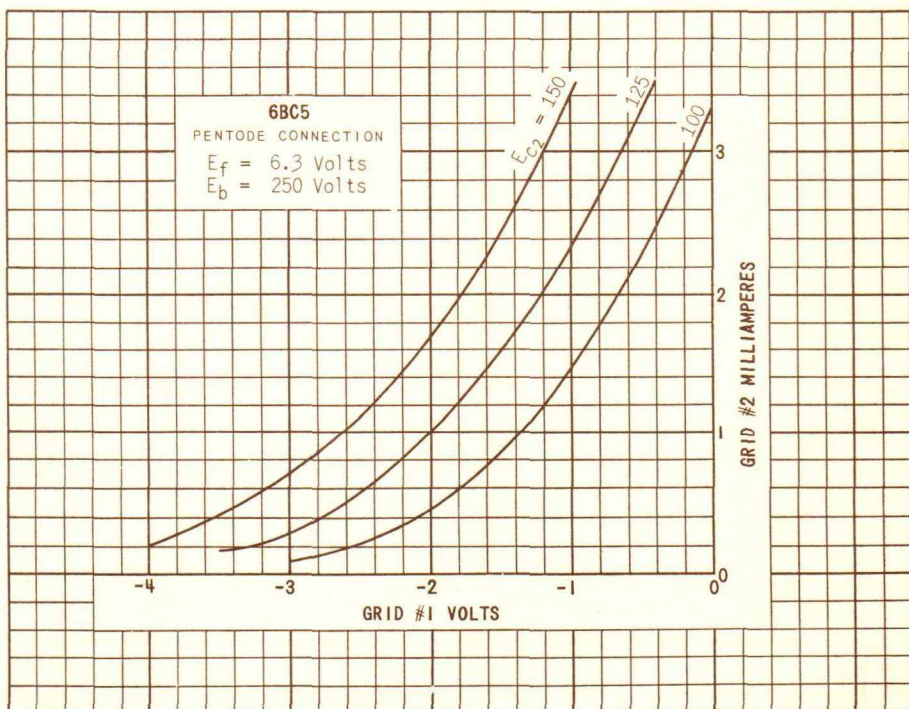
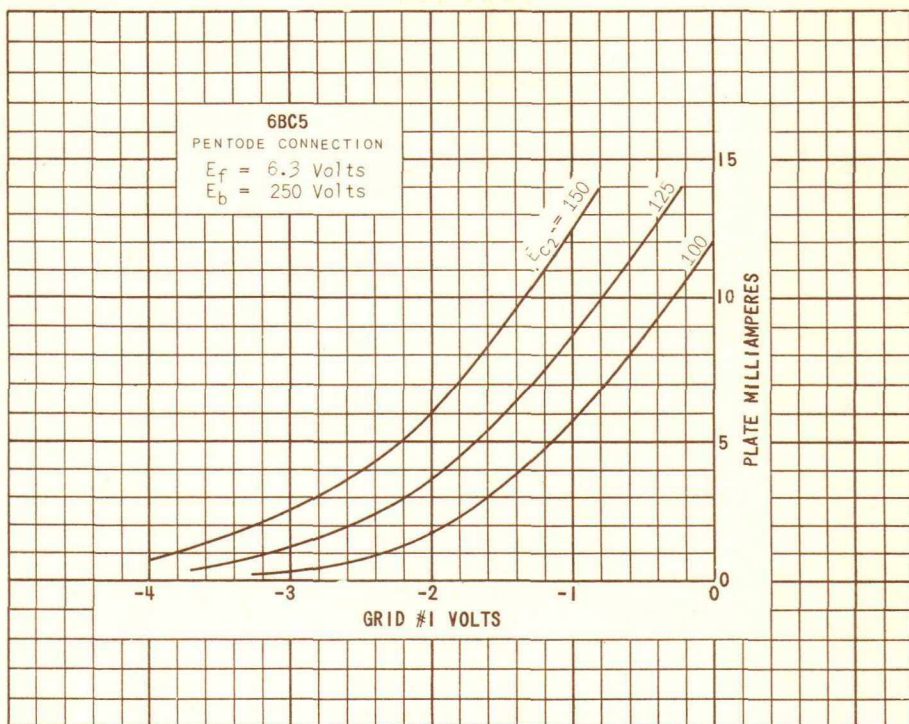
CLASS A₁ AMPLIFIER

	TRIODE ^C		PENTODE			
PLATE VOLTAGE	250	180	100	125	250	VOLTS
GRID #2 VOLTAGE	PLATE	PLATE	100	125	150	VOLTS
CATHODE RESISTOR	820	330	180	100	180	OHMS
TRANSCONDUCTANCE	4400	6000	4900	6100	5700	μMHOS
PLATE RESISTANCE (APPROXIMATELY)	.009	.006	0.6	0.5	0.8	MEGOHM
AMPLIFICATION FACTOR	40	42	---	---	---	
PLATE CURRENT	6.0 ^D	8.0 ^D	4.7	8.0	7.5	MA.
GRID #2 CURRENT	---	---	1.4	2.4	2.1	MA.
GRID #1 VOLTAGE (APPROX.)						
FOR Ib = 10 μA.	---	---	-5	-6	-8	VOLTS

^C G2 TIED TO PLATE.

^D TOTAL CURRENT FLOWING TO PLATE + G2.

→ INDICATES A CHANGE.



6BC5

