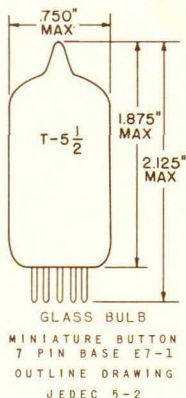


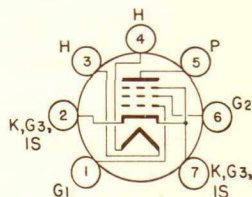
TUNG-SOL

PENTODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HIGH FREQUENCY INTERMEDIATE
AND RF AMPLIFIER

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
BASING DIAGRAM
JEDEC 7BD

THE 3BC5 IS A HIGH TRANSCONDUCTANCE PENTODE VOLTAGE AMPLIFIER IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED RECEIVERS. IT IS USEFUL AS AN RF AMPLIFIER UP TO ABOUT 400 MC. AND AS A HIGH-FREQUENCY INTERMEDIATE 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.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD ^A	WITHOUT SHIELD	
PENTODE CONNECTION:			
GRID TO PLATE: (G1 TO P) MAX.	0.020	0.030	pf
INPUT: G1 TO (H+K+G2+G3 & I.S.)	6.6	6.5	pf
OUTPUT: P TO (H+K+G2+G3 & I.S.)	3.1	1.8	pf
TRIODE CONNECTION: (G2 TIED TO PLATE)			
GRID TO PLATE: G1 TO (P+G2)	2.5	2.5	pf
INPUT: G1 TO (H+K+G3 & I.S.)	4.0	3.9	pf
OUTPUT: (P+G2) TO (H+K+G3 & I.S.)	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	3.15 VOLTS	600	MA.
HEATER WARM-UP TIME*		11	SECONDS
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		600 ± 40	MA.
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.

CONTINUED ON FOLLOWING PAGE

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 ^C	330	VOLTS
PLATE DISSIPATION	2.9 ^C	2.3	WATTS
GRID #1 VOLTAGE (POSITIVE BIAS VALUE)	0	0	VOLT
GRID #2 DISSIPATION	---	0.55	WATTS
FOR VOLTAGES UP TO 165 V.	---	SEE RATING CHART	
FOR VOLTAGES BETWEEN 165 & 330 V.	---		

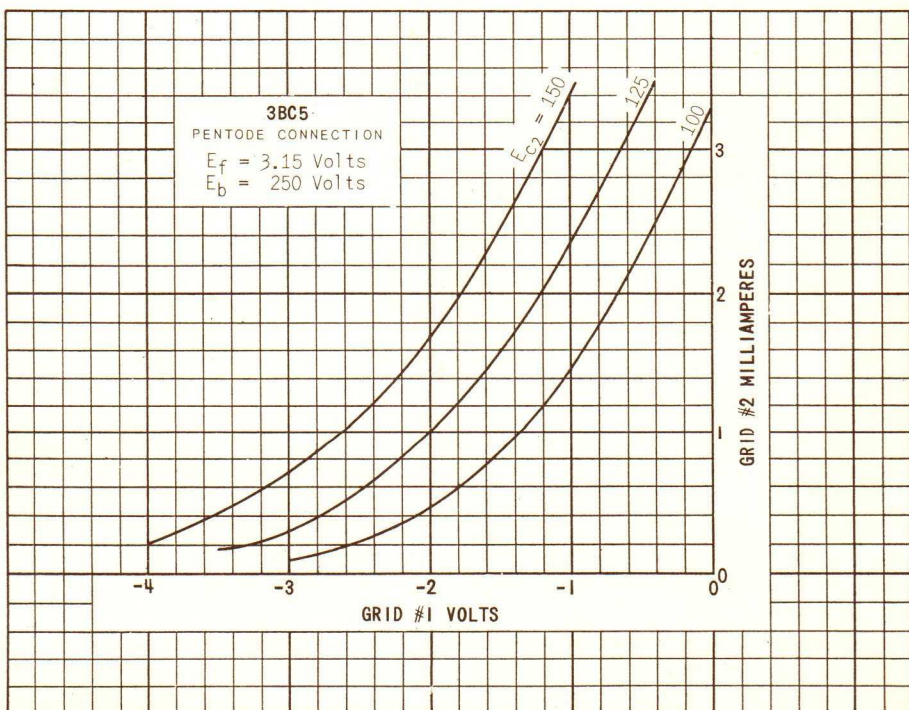
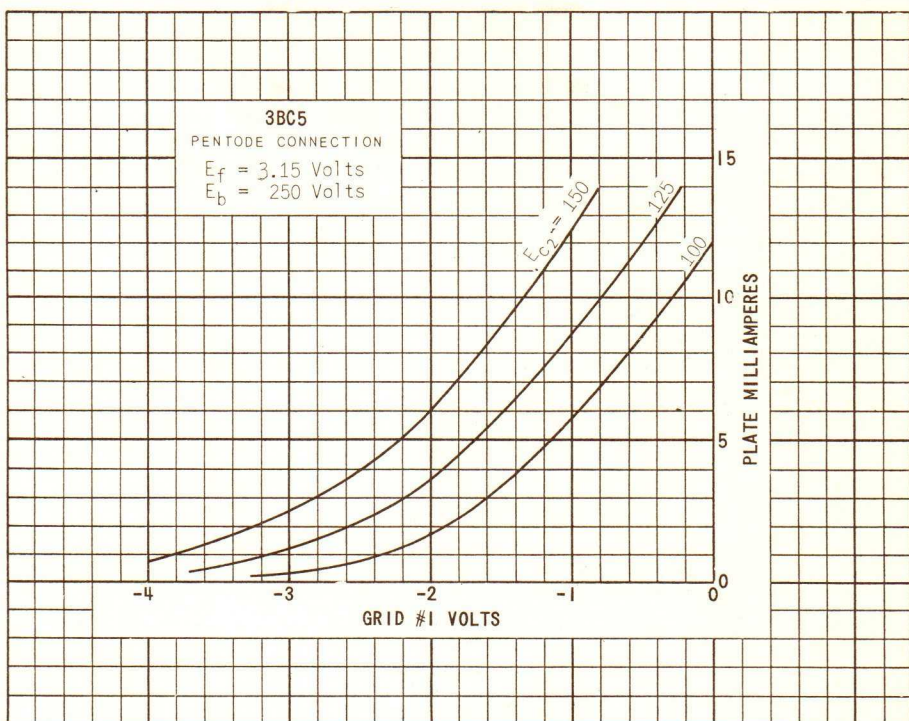
→ TYPICAL OPERATING CHARACTERISTICS
CLASS A₁ AMPLIFIER

	TRIODE ^C		PENTODE		
PLATE VOLTAGE	250	180	100	125	250 VOLTS
GRID #2 VOLTAGE			100	125	150 VOLTS
CATHODE RESISTOR	820	330	180	100	180 OHMS
TRANSCONDUCTANCE	4400	6000	4900	6100	5700 μ MHOS
PLATE RESISTANCE (APPROXIMATELY)	0.009	0.006	0.6	0.5	0.8 MEGOHM
AMPLIFICATION FACTOR	40	42	---	---	---
PLATE CURRENT	6.0	8.0	4.7	8.0	7.5 MA.
GRID #2 CURRENT	---	---	1.4	2.4	2.1 MA.
GRID #1 VOLTAGE (APPROX.) FOR $I_b = 10 \mu A$.	---	---	-5	-6	-8 VOLTS

^C G2 TIED TO PLATE.

→ INDICATES A CHANGE.

* 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.



3BC5

