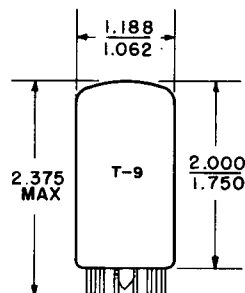


TUNG-SOL

TRIODE - TWIN PENTODE

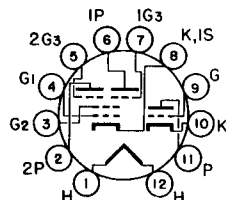


GLASS BULB
BUTTON
12 PIN BASE E12-70
OUTLINE DRAWING
JEDEC 9-58

COATED UNIPOTENTIAL CATHODE

FOR
VERTICAL DEFLECTION OSCILLATOR
AND COMBINED SYNC-AGC
APPLICATIONS IN TV CIRCUITS

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 12ER

THE 6BA11 IS A TRIODE-TWIN PENTODE IN A COMPACTRON STRUCTURE. THE MEDIUM MU TRIODE MAY BE USED AS A VERTICAL DEFLECTION OSCILLATOR. THE TWIN PENTODE CONSISTS OF A COMMON CATHODE, FIRST CONTROL GRID AND SCREEN GRID, WITH SEPARATE SECOND CONTROL GRIDS AND PLATES AND IS INTENDED FOR COMBINED SYNC-AGC APPLICATIONS IN TV CIRCUITS. AN INTERNAL GRID SHIELD IS CONNECTED TO THE GRID 2 OF THE PENTODES. AN INTERSECTION SHIELD BETWEEN PENTODES AND TRIODE IS CONNECTED TO PIN 8.

DIRECT INTERELECTRODE CAPACITANCES WITHOUT EXTERNAL SHIELD

PENTODE:

GRID 3 TO PLATE, EACH SECTION	2.0	pf
GRID 1 TO ALL	6.0	pf
GRID 3 (EACH PENTODE) TO ALL	3.6	pf
PLATE (EACH PENTODE) TO ALL	3.0	pf
GRID 3 (PENTODE 1) TO GRID 3 (PENTODE 2) MAX.	0.026	pf

TRIODE:

GRID TO PLATE, G TO P	2.0	pf
INPUT: G TO (K+H)	2.0	pf
OUTPUT: P TO (K+H+I.S.)	1.9	pf

HEATER CHARACTERISTICS AND RATINGS DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	600	MA.
HEATER WARM-UP TIME ●		11	SECONDS
LIMITS OF APPLIED VOLTAGE		6.3±0.6	VOLTS
LIMITS OF SUPPLIED CURRENT		600±40	MA.
MAXIMUM HEATER-CATHODE VOLTAGE (BOTH SECTIONS)			
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

CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

SECTION:	TRIODE	PENTODE	
PLATE VOLTAGE	300	300	VOLTS
GRID 2 VOLTAGE	-----	150	VOLTS
POSITIVE DC GRID 3 VOLTAGE	-----	3.0	VOLTS
NEGATIVE DC GRID 3 VOLTAGE	-----	50	VOLTS
PEAK POSITIVE GRID 3 VOLTAGE	-----	50	VOLTS
NEGATIVE DC GRID 1 VOLTAGE	-----	50	VOLTS
PLATE DISSIPATION (EACH PLATE)	1.5	1.1	WATTS
GRID 2 DISSIPATION	-----	0.75	WATTS
DC CATHODE CURRENT	20	12	MA.
GRID 3 CIRCUIT RESISTANCE (EACH GRID)	-----	0.5	MEGOHMS
GRID 1 CIRCUIT RESISTANCE			
FIXED BIAS	0.25	0.5	MEGOHMS
CATHODE BIAS	1.0	0.5	MEGOHMS

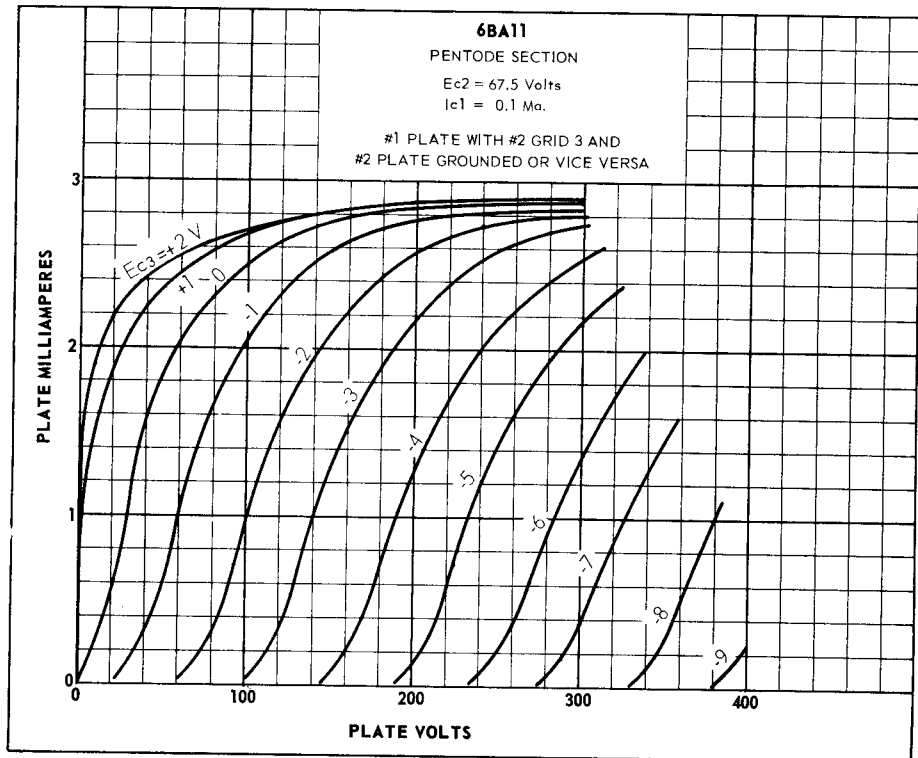
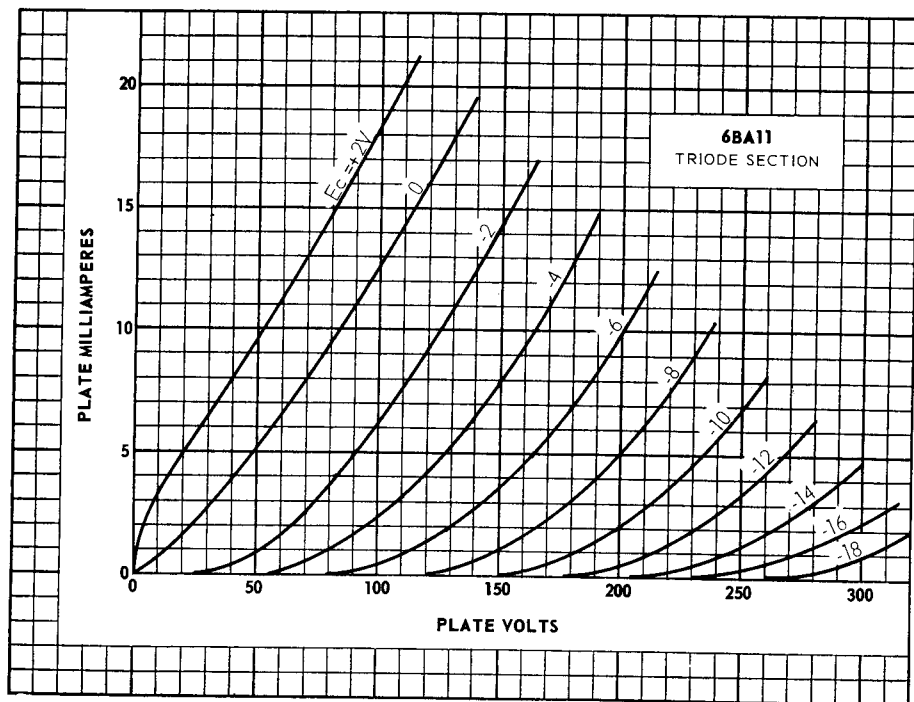
TYPICAL OPERATING CHARACTERISTICS

AVERAGE CHARACTERISTICS

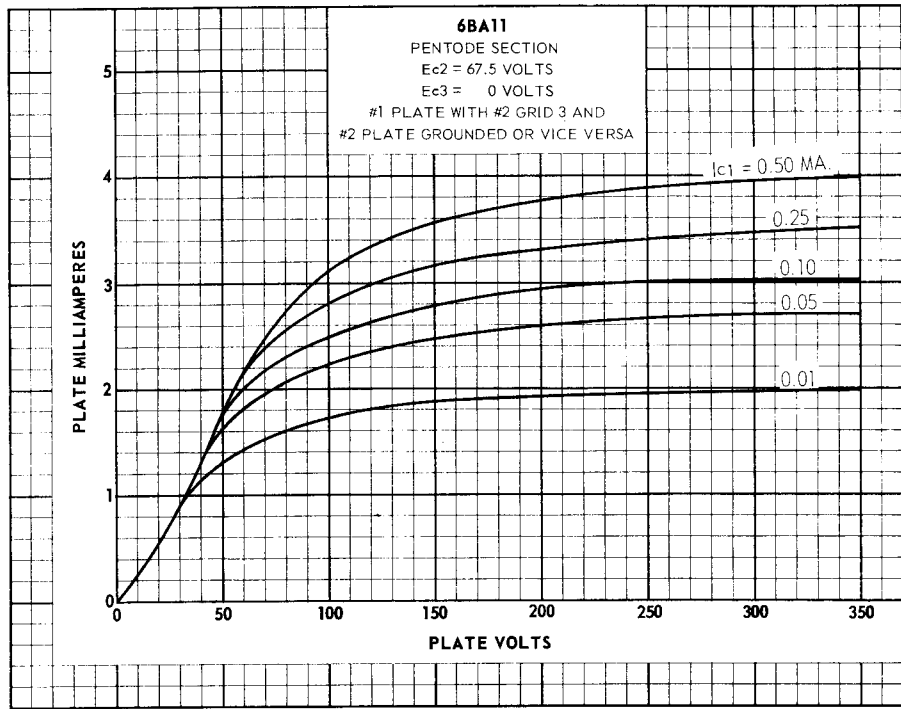
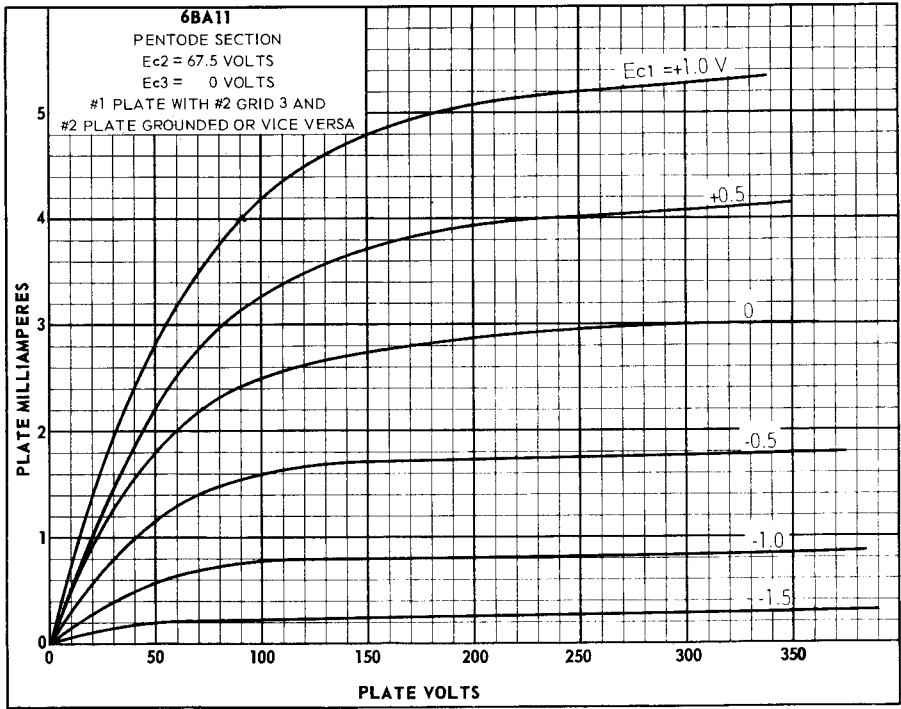
		TRIODE		PENTODE		
		EACH SECTION ^A SEPARATELY		BOTH SECTIONS ^C OPERATING		
PLATE VOLTAGE	250	100	100	100	100	VOLTS
GRID 2 VOLTAGE	-----	67.5	67.5	67.5	67.5	VOLTS
GRID 3 VOLTAGE	0	0	0	-10	0	VOLTS
GRID 1 VOLTAGE	-11	0	B	B	B	VOLTS
PLATE CURRENT	5.0	-----	2.5	0	2.5	MA.
GRID 2 CURRENT	-----	-----	-----	7.0	4.4	MA.
GRID 1 TRANSCONDUCTANCE	1800	1700	-----	-----	-----	μ MHOS
AMPLIFICATION FACTOR	18	-----	-----	-----	-----	
GRID 3 TRANSCONDUCTANCE	-----	-----	450	-----	-----	μ MHOS
GRID 1 VOLTAGE (APPROX.) FOR $I_b = 100 \mu A$.	-18	2.3	-----	-----	-----	VOLTS
GRID 3 VOLTAGE (APPROX.) FOR $I_b = 100 \mu A$.	-----	-----	-3.2	-----	-----	VOLTS

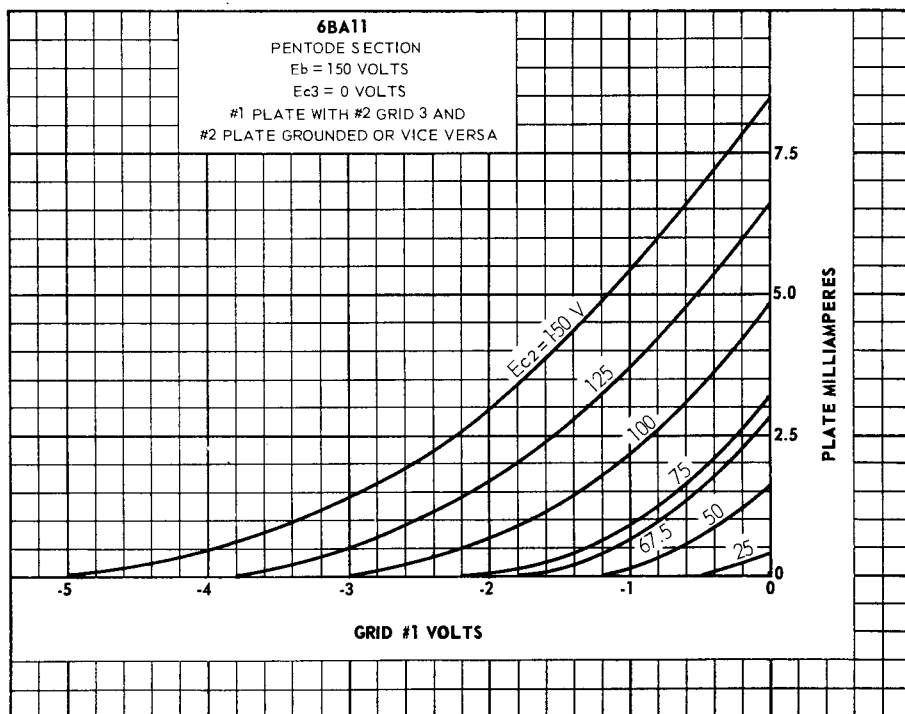
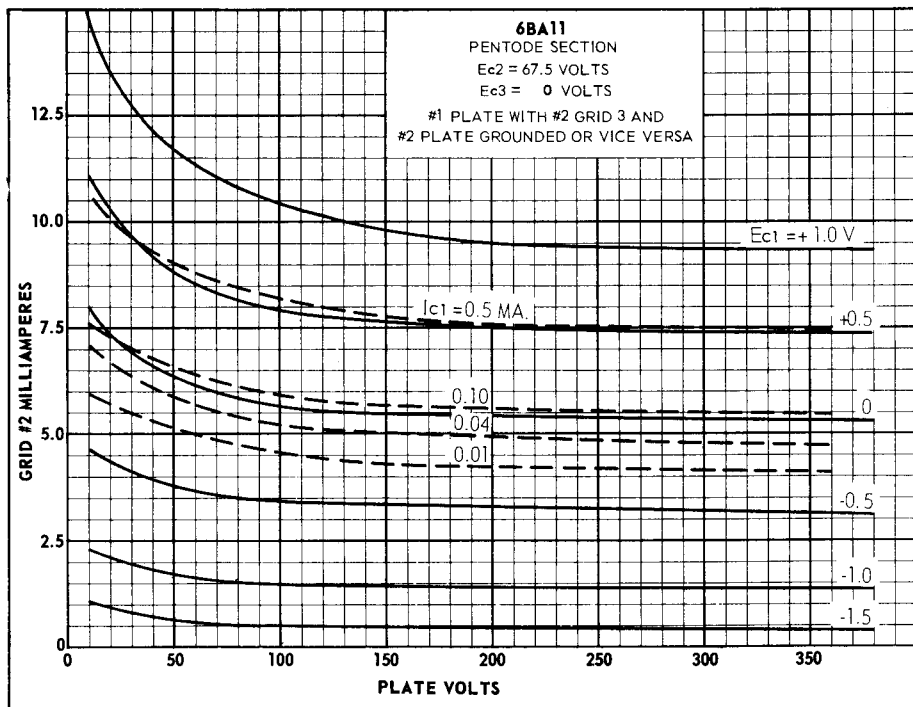
HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE THREE TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

- A. PLATE AND GRID 3 OF OPPOSITE SECTION GROUNDED.
- B. GRID 1 VOLTAGE ADJUSTED SO THAT $I_{c1} = 100 \mu A$ DC.
- C. VOLTAGES AND PLATE CURRENT APPLY TO EACH SECTION.



6BA11





6BA11

