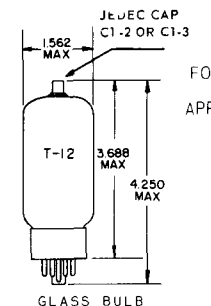


TUNG-SOL

BEAM PENTODE



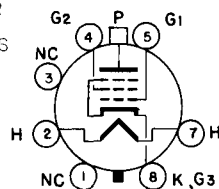
GLASS BULB
SKIRTED MINIATURE
SHORT MEDIUM-SHELL
6 PIN OCTAL B6-122,
B6-148 OR
7 PIN OCTAL
B7-111, B7-119 OR B5-190
OUTLINE DRAFTER
JEDEC 7-1-57

COATED UNIPOTENTIAL CATHODE

FOR HORIZONTAL DEFLECTION AMPLIFIER
APPLICATIONS IN TELEVISION RECEIVERS

ANY MOUNTING POSITION

PIN #1 IS OMITTED WHEN EITHER
A B6-122 OR B6-148 BASE IS USED



BASING DIAGRAM
JEDEC 6AM

THE 12DQ6B IS A BEAM POWER PENTODE PRIMARILY DESIGNED FOR USE AS THE HORIZONTAL-DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS. ITS HIGH ZERO-BIAS PLATE CURRENT AT LOW PLATE AND SCREEN VOLTAGES MAKES THE TUBE WELL SUITED FOR USE IN RECEIVERS THAT OPERATE AT LOW PLATE-SUPPLY VOLTAGES. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME, THE 12DQ6B IS IDENTICAL TO THE 6DQ6B.

DIRECT INTERELECTRODE CAPACITANCES — APPROX.

WITHOUT EXTERNAL SHIELD

GRID TO PLATE (G TO P)	0.5	pf
INPUT: (G1 TO H+K, BP + G2)	15.0	pf
OUTPUT: (P TO H+K, BP + B2)	7.0	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES — SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	12.6 VOLTS	600	MA.
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		600±40	MA.
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC		100	VOLTS
TOTAL DC AND PEAK		200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		200	VOLTS
HEATER WARM-UP TIME, APPROX. *			SECONDS

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

HORIZONTAL DEFLECTION AMPLIFIER^A

PLATE SUPPLY VOLTAGE, DC (BOOST+DC POWER SUPPLY)	770	VOLTS
PLATE VOLTAGE, PEAK PULSE, POSITIVE	6500	VOLTS
PLATE VOLTAGE, PEAK PULSE, NEGATIVE	1500	VOLTS
PLATE DISSIPATION, ^B	18	WATTS
GRID #1 VOLTAGE, PEAK PULSE, NEGATIVE	330	VOLTS
GRID #2 VOLTAGE, DC	220	VOLTS
GRID #2 DISSIPATION	3.6	WATTS
CATHODE CURRENT, AVERAGE	175	MA.
CATHODE CURRENT, PEAK	610	MA.
GRID #1 CIRCUIT RESISTANCE, ^B	1.0	MEGOHM
BULB TEMPERATURE, (AT HOTTEST POINT)	220	°C

AVERAGE CHARACTERISTICS

PENTODE OPERATION: $E_b = 250V$, $E_{c2} = 150V$, $E_{c1} = -22.5V$.

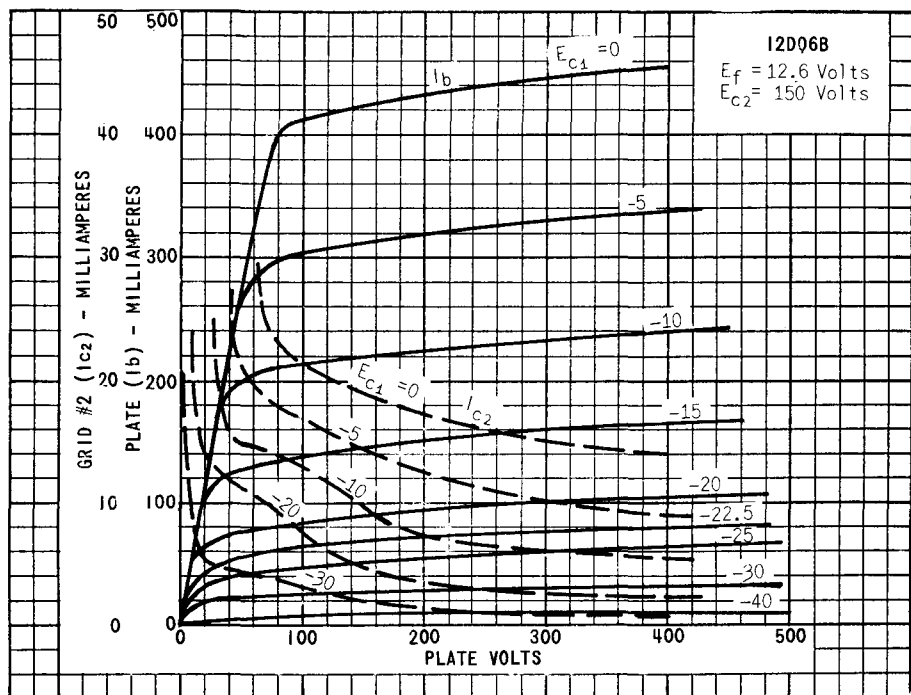
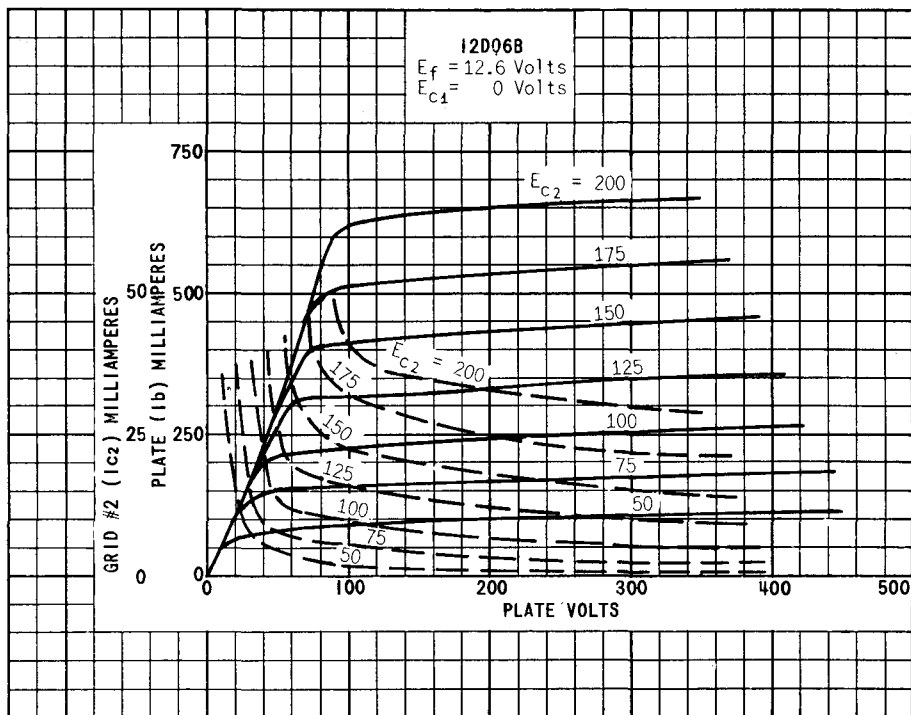
PLATE CURRENT	65	MA.
GRID #2 CURRENT	1.8	MA.
TRANSCONDUCTANCE	7300	μ MHOS
PLATE RESISTANCE, APPROX.	18,000	OHMS
ZERO BIAS: $E_b = 60V$, $E_{c2} = 150V$. (INSTANTANEOUS VALUES)		
PLATE CURRENT	345	MA.
GRID #2 CURRENT	27	MA.
CUTOFF: $I_b = 1$ MA, $E_b = 250$ V, $E_{c2} = 150$ V.		
GRID #1 VOLTAGE, APPROX.	-42	VOLTS
CUTOFF: $I_b = 1$ MA, $E_b = 5000$ V, $E_{c2} = 150$ V.		
GRID #1 VOLTAGE, APPROX.	-100	VOLTS
TRIODE MU: $E_b = E_{c2} = 150$ V, $E_{c1} = -22.5$ V.	4.4	

→ INDICATES A CHANGE.

^A FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

^B IN TUBES OPERATING WITH GRID LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

*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.



12DQ6B

$E_f = 12.6$ Volts
 $E_b = 250$ Volts

— I_b
 - - - I_{c2}

GRID VOLTS

PLATE (Ib) MILLIAMPERES
 GRID #2 (I_{c2}) - MILLIAMPERES

The graph shows two sets of curves for the 12DQ6B tube. The top set of solid curves represents the plate current (I_b) for grid voltages from -60V to 0V, with plate current values ranging from 0 to 500 mA. The bottom set of dashed curves represents the control grid current (I_{c2}) for the same grid voltage range, with values ranging from 0 to 40 mA. Both sets of curves are plotted for grid voltages of -60, -50, -40, -30, -20, -10, and 0V. The curves for I_b are labeled with values 100, 125, 150, 175, and 200 mA. The curves for I_{c2} are labeled with values 50, 75, 100, 125, 150, 175, and 200 mA.

