TUNG-SOL

TRIODE PENTODE

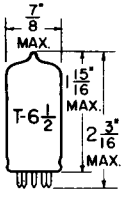
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

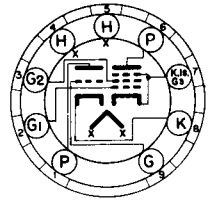
HEATER

6.3 VOLTS 0.45 AMP.

ANY MOUNTING POSITION



GLASS BULB
6-2



BOTTOM VIEW

9DC

THE 6BL8 IS A TRIODE-PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE AS A FREQUENCY CHANGER IN TELEVISION RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES

	TRIODE SECTION	PENTODE SECTION	
INPUT CAPACITANCE	2.5	5.5	pf
OUTPUT CAPACITANCE	1.8	3.8	pf
PLATE TO GRID #1 (MAX.)		0.025	pf
PLATE TO GRID	1.5		pf
BETWEEN PENTODE AND TRIODE SECTIONS:			
PENTODE PLATE TO TRIODE PLATE (MAX.)		0.07	pf
PENTODE PLATE TO TRIODE GRID (MAX.)		0.02	pf
PENTODE GRID TO TRIODE PLATE (MAX.)		0.16	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	TRIODE SECTION	PENTODE SECTION	
MAXIMUM PLATE VOLTAGE	250	250	VOLTS
MAXIMUM PLATE DISSIPATION	1.5	1.7	WATTS
MAXIMUM GRID CIRCUIT RESISTANCE	0.5		MEGOHM
MAXIMUM GRID #2 VOLTAGE AT A CATHODE CURRENT OF 14 MAMPS		175	VOLTS
MAXIMUM GRID #2 VOLTAGE AT A CATHODE CURRENT LESS THAN 10 MAMPS		200	VOLTS
MAXIMUM GRID #2 VOLTAGE WITHOUT CURRENT		550	VOLTS
MAXIMUM GRID #2 DISSIPATION AT A PLATE DISSIPATION MORE THAN 1.2 WATTS		0.5	WATT
MAXIMUM GRID #1 CIRCUIT RESISTANCE WITH AUTOMATIC BIAS		1	MEGOHM
MAXIMUM GRID #1 CIRCUIT RESISTANCE WITH FIXED BIAS		0.5	MEGOHM
MAXIMUM CATHODE CURRENT	14	14	MAMPS
MAXIMUM VOLTAGE BETWEEN HEATER AND CATHODE	100	100	VOLTS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL CHARACTERISTICS

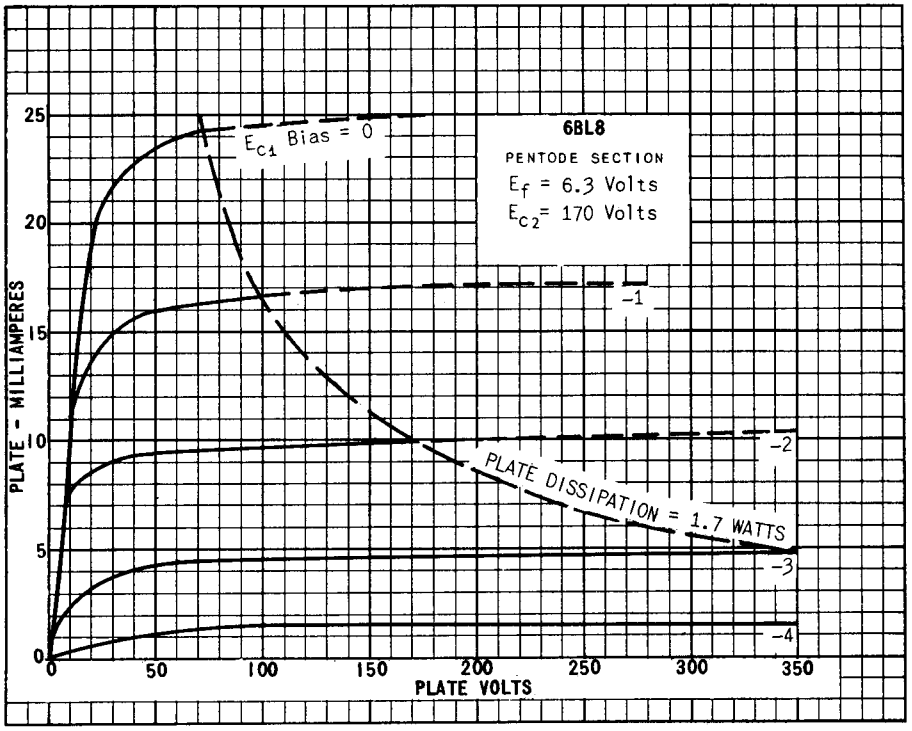
	TRIODE SECTION	PENTODE SECTION	
PLATE VOLTAGE	100	170	VOLTS
GRID #1 VOLTAGE	−2	−2	VOLTS
PLATE CURRENT	14	10	MAMPS
GRID #2 CURRENT		2.8	MAMPS
TRANSCONDUCTANCE	5000	6200	μMHOS
PLATE RESISTANCE		0.4	MEGOHM
AMPLIFICATION FACTOR	20		
AMPLIFICATION FACTOR OF GRID #2 WITH RESPECT TO GRID #1		47	
INPUT RESISTANCE AT 50 MC		10 000	OHMS
EQUIVALENT NOISE RESISTANCE		1 500	OHMS
GRID #2 VOLTAGE		170	VOLTS

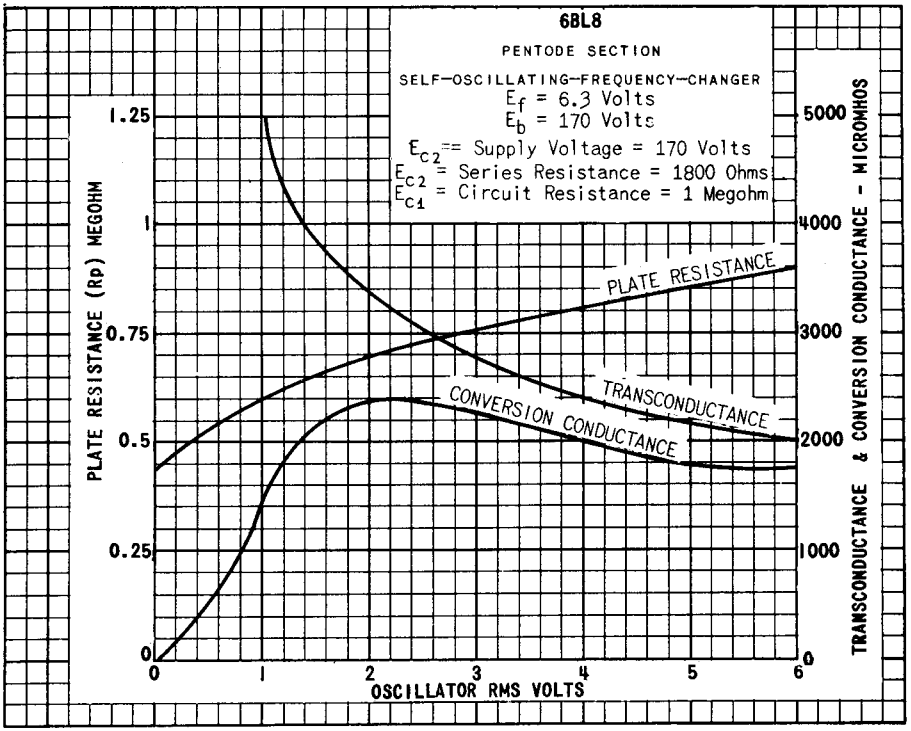
OPERATING CHARACTERISTICS

FOR USE AS MIXER

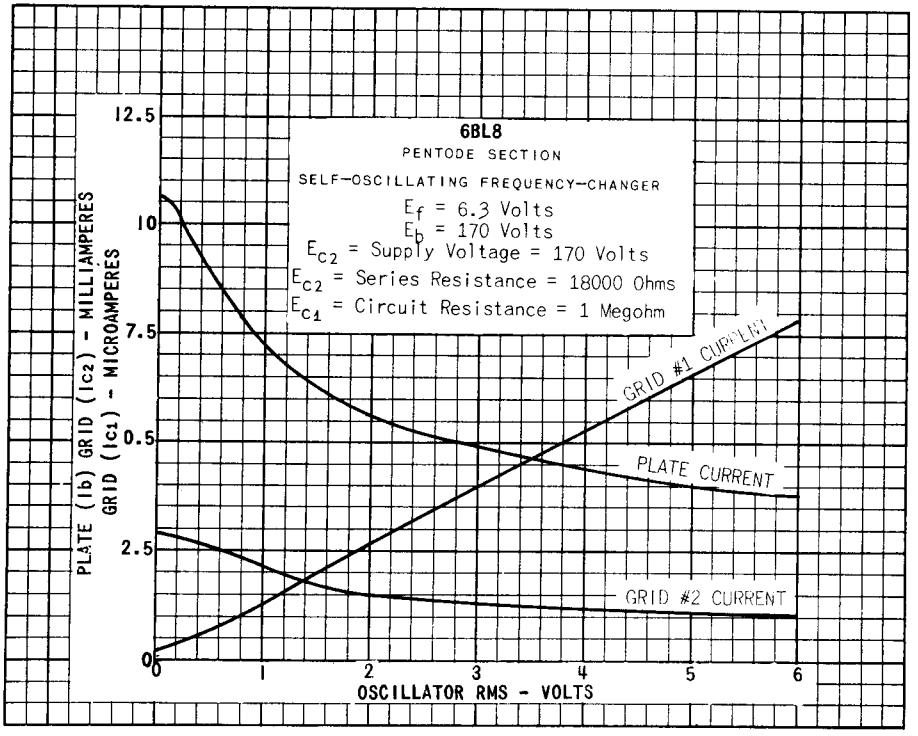
PLATE VOLTAGE	170	170	VOLTS
GRID #2 VOLTAGE	170	170	VOLTS
GRID #1 CIRCUIT RESISTANCE	0.1	0.1	MEGOHM
CATHODE RESISTOR	330	820	OHMS
OSCILLATOR VOLTAGE , RMS	3.5	3.5	VOLTS
PLATE CURRENT	6.5	5.2	MAMPS
GRID #2 CURRENT	2.0	1.5	MAMPS
GRID #1 CURRENT	25	0	μAMP
CONVERSION CONDUCTANCE	2200	2100	μMHOS
PLATE RESISTANCE	0.8	0.87	MEGOHM

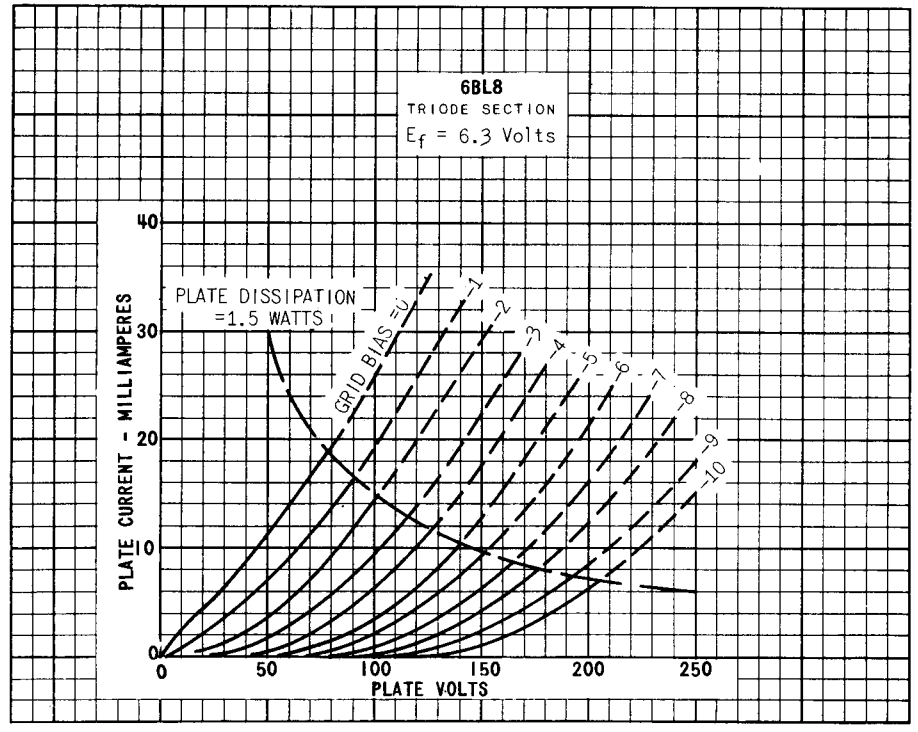
OPTIMUM PEAK CATHODE CURRENT OF THE TRIODE SECTION IS FRAME OUTPUT APPLICATION. TO ALLOW FOR TUBE SPREAD, FOR DETERIORATION DURING LIFE AND FOR EMISSION DROP AT UNDERHEATING THE SET SHOULD BE DESIGNED SO THAT WITH A PEAK CATHODE CURRENT OF 100 MA IT STILL OPERATES SATISFACTORILY. IT IS RECOMMENDED THAT THE AMPLITUDE OF THE PEAK CURRENTS OCCURRING WITH FRESH TUBES BE LIMITED AUTOMATICALLY.

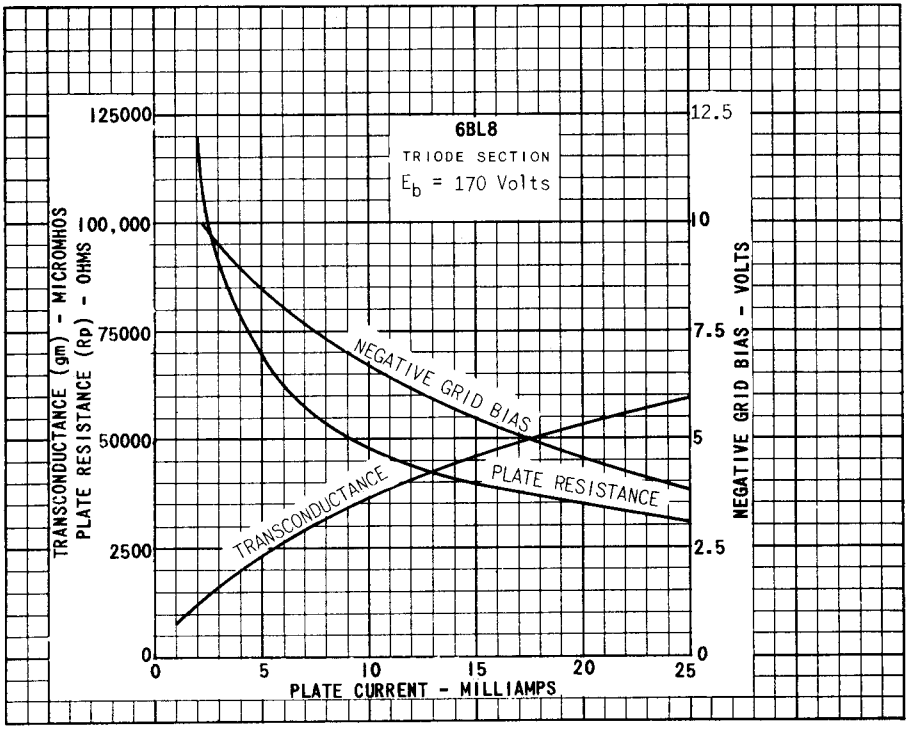

6BL8
PENTODE SECTION
E_f = 6.3 Volts
E_{c2} = 170 Volts
E_{c1} Bias = 0
-1
-2
-3
-4
PLATE DISSIPATION = 1.7 WATTS
PLATE - MILLIAMPERES
PLATE VOLTS
0
5
10
15
20
25
50
100
150
200
250
300
350


6BL8
PENTODE SECTION
SELF-OSCILLATING-FREQUENCY-CHANGER
E_f = 6.3 Volts
E_b = 170 Volts
E_{c2} = Supply Voltage = 170 Volts
E_{c2} = Series Resistance = 1800 Ohms
E_{c1} = Circuit Resistance = 1 Megohm
PLATE RESISTANCE
TRANSCONDUCTANCE
CONVERSION CONDUCTANCE
PLATE RESISTANCE (Rp) MEGOHM
TRANSCONDUCTANCE & CONVERSION CONDUCTANCE - MICROMHOS
OSCILLATOR RMS VOLTS
0
0.25
0.5
0.75
1
1.25
1000
2000
3000
4000
5000
1
2
3
4
5
6

TENTATIVE DATA






6BL8
TRIODE SECTION
E_b = 170 Volts
TRANSCONDUCTANCE (gm) - MICROMHOS
PLATE RESISTANCE (Rp) - OHMS
NEGATIVE GRID BIAS - VOLTS
PLATE CURRENT - MILLIAMPS
NEGATIVE GRID BIAS
TRANSCONDUCTANCE
PLATE RESISTANCE
125000
100,000
75000
50000
2500
0
12.5
10
7.5
5
2.5
0
0
5
10
15
20
25