TUNG-SOL

TRIODE-PENTODE

MINIATURE TYPE

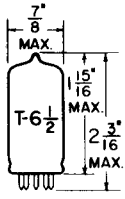
COATED UNIPOTENTIAL CATHODE

HEATER

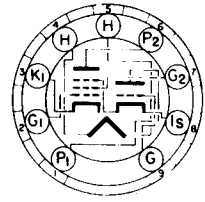
4.7 VOLTS 0.6 AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW

MINIATURE BUTTON
9 PIN BASE

9GJ

THE 5CR8 IS A MINIATURE TRIODE PENTODE USING THE 9-PIN MINIATURE CONSTRUCTION. THE PENTODE IS DESIGNED FOR TELEVISION IF AND CONTAINS A SUPPRESSOR INTERNALLY CONNECTED TO THE TRIODE CATHODE PERMITTING DEGENERATION IN THE PENTODE CATHODE. 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. EXCEPT FOR HEATER VOLTAGE AND CURRENT, THE 5CR8 IS IDENTICAL TO THE 6CR8.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

WITHOUT EXTERNAL SHIELD

TRIODE:		
GRID TO PLATE: G TO P	1.6	μμf
INPUT: G TO (H + K)	2.6	μμf
OUTPUT: P TO (H + K)	1.4	μμf
PENTODE:		
GRID #1 TO PLATE: G_1 TO P (MAX.)	0.018	μμf
INPUT: G_1 TO (H+K+G_2+G_3+I.S.)	6.0	μμf
OUTPUT: P TO (H+K+G_2+G_3+I.S.)	2.8	μμf
COUPLING:		
PENTODE PLATE TO TRIODE PLATE (MAX.)	0.10	μμf
PENTODE GRID #1 TO TRIODE PLATE (MAX.)	0.14	μμf
PENTODE PLATE TO TRIODE GRID (MAX.)	0.011	μμf

RATINGS[A]

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	TRIODE	PENTODE	
HEATER VOLTAGE	4.7	4.7	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
DC AND PEAK	200	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC	100	100	VOLTS
DC AND PEAK	200	200	VOLTS
MAXIMUM PLATE VOLTAGE	330	330	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE		330	VOLTS
MAXIMUM GRID #2 VOLTAGE	SEE RATING CHART		

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS - CONT'D[A]

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	TRIODE	PENTODE	
HEATER VOLTAGE	4.7	4.7	VOLTS
MAXIMUM POSITIVE GRID #1 VOLTAGE	0	0	VOLTS
MAXIMUM PLATE DISSIPATION	2.75	2.3	WATTS
MAXIMUM GRID #2 DISSIPATION		0.55	WATT
MAXIMUM GRID #1 CIRCUIT RESISTANCE			
FIXED BIAS	0.5		MEGOHM
SELF BIAS	1.0		MEGOHM
HEATER WARM-UP TIME*	11.0		SECONDS

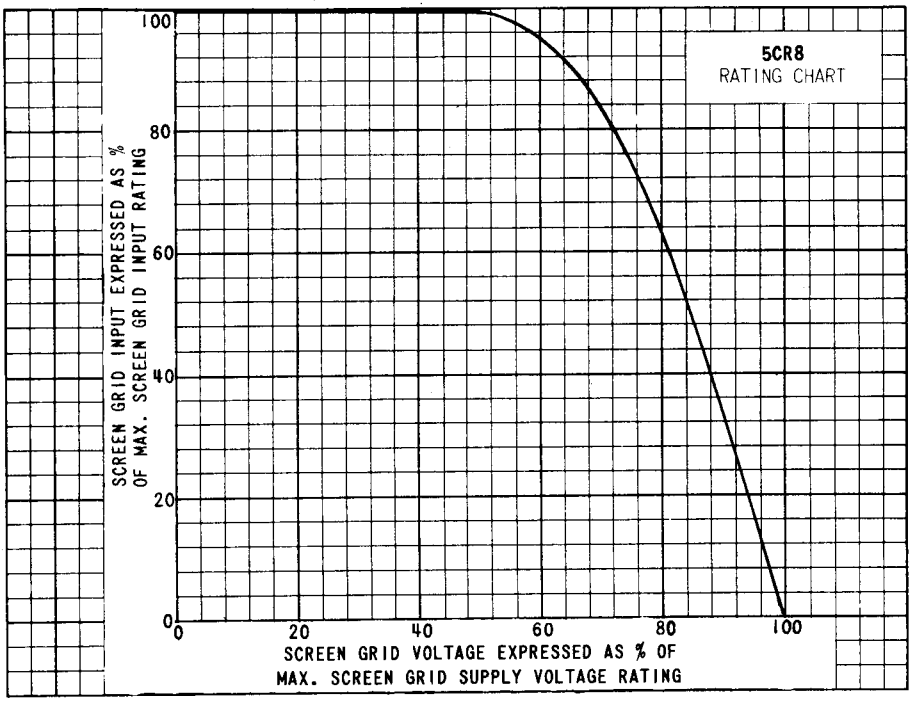
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

	TRIODE	PENTODE	
HEATER VOLTAGE	4.7	4.7	VOLTS
HEATER CURRENT	0.6	0.6	AMP.
PLATE VOLTAGE	125	125	VOLTS
GRID #2 VOLTAGE		125	VOLTS
GRID #1 VOLTAGE	-2	0	VOLTS
CATHODE BIAS RESISTOR		56	OHMS
PLATE CURRENT	12	13	MA.
GRID #2 CURRENT		3	MA.
AMPLIFICATION FACTOR	22		
TRANSCONDUCTANCE	4 000	7 700	μMHOS
PLATE RESISTANCE (APPROX.)	5 500	300 000	OHMS
GRID #1 VOLTAGE (APPROX.) FOR Ib = 10 μA	-13		VOLTS
GRID #1 VOLTAGE (APPROX.) FOR Ib = 20 μA		-6.5	VOLTS
PLATE CURRENT WITH E_{c1} =-3 Vdc, RK=0		2.8	MA.

[A] DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

* 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.


5CR8
RATING CHART
SCREEN GRID INPUT EXPRESSED AS % OF MAX. SCREEN GRID INPUT RATING
100
80
60
40
20
0
0
20
40
60
80
100
SCREEN GRID VOLTAGE EXPRESSED AS % OF
MAX. SCREEN GRID SUPPLY VOLTAGE RATING