

TUNG-SOL

DOUBLE-DIODE PENTODE

MINIATURE TYPE

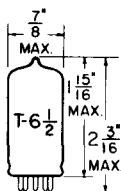
COATED UNIPOTENTIAL CATHODE

HEATER

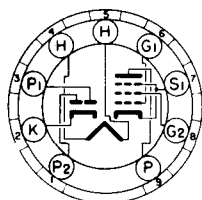
4.7 VOLTS $0.6 \pm 6\%$ AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB


 BOTTOM VIEW
 SMALL BUTTON
 9 PIN BASE

9HK

THE 5BW8 IS A DOUBLE-DIODE PENTODE IN WHICH SEPARATE CATHODES ARE PROVIDED FOR THE TWO SECTIONS. THE DIODE SECTIONS ARE INTENDED FOR USE PRIMARILY AS A HORIZONTAL PHASE DETECTOR IN TELEVISION RECEIVERS. THE PENTODE SECTION IS SUITABLE FOR USE AS A SOUND IF AMPLIFIER, SOUND LIMITER, AND AUTOMATIC-GAIN-CONTROL KEYS.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

PENTODE GRID #1 TO PLATE (MAX.)	0.020	μf
PENTODE INPUT	4.8	μf
PENTODE OUTPUT	2.6	μf
GRID #1 TO EACH DIODE PLATE (MAX.)	0.006	μf
DIODE #1 PLATE TO DIODE CATHODE & HEATER	1.3	μf
DIODE #2 PLATE TO DIODE CATHODE & HEATER	1.2	μf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	4.7	VOLTS
MAXIMUM PLATE VOLTAGE	$0.6 \pm 6\%$	VOLTS
MAXIMUM SCREEN-SUPPLY VOLTAGE	330	VOLTS
MAXIMUM SCREEN VOLTAGE	SEE SCREEN RATING CHART	
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	VOLTS
MAXIMUM NEGATIVE DC GRID #1 VOLTAGE	55	VOLTS
MAXIMUM PLATE DISSIPATION	3.0	WATTS
MAXIMUM SCREEN DISSIPATION	0.55	WATTS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC COMPONENT	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	200	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE		
WITH FIXED BIAS	0.1	MEG OHMS
WITH CATHODE BIAS	0.5	MEG OHMS
MAXIMUM DIODE CURRENT FOR CONTINUOUS OPERATION (EA. SEC.)	5.0	MA.
HEATER WARM-UP TIME (APPROX.) *	17.0	SECONDS

* 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.

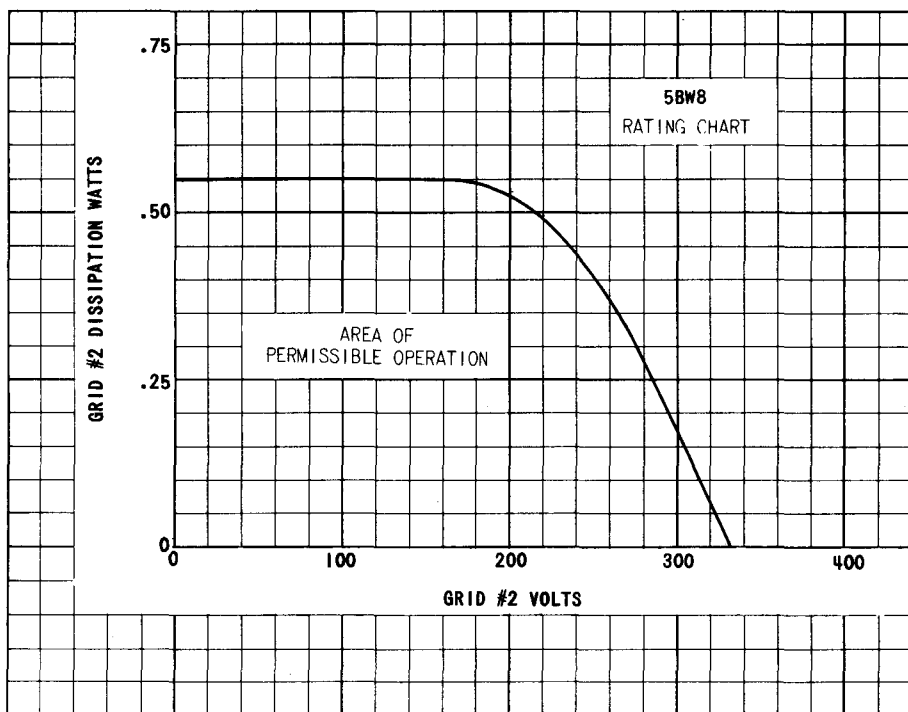
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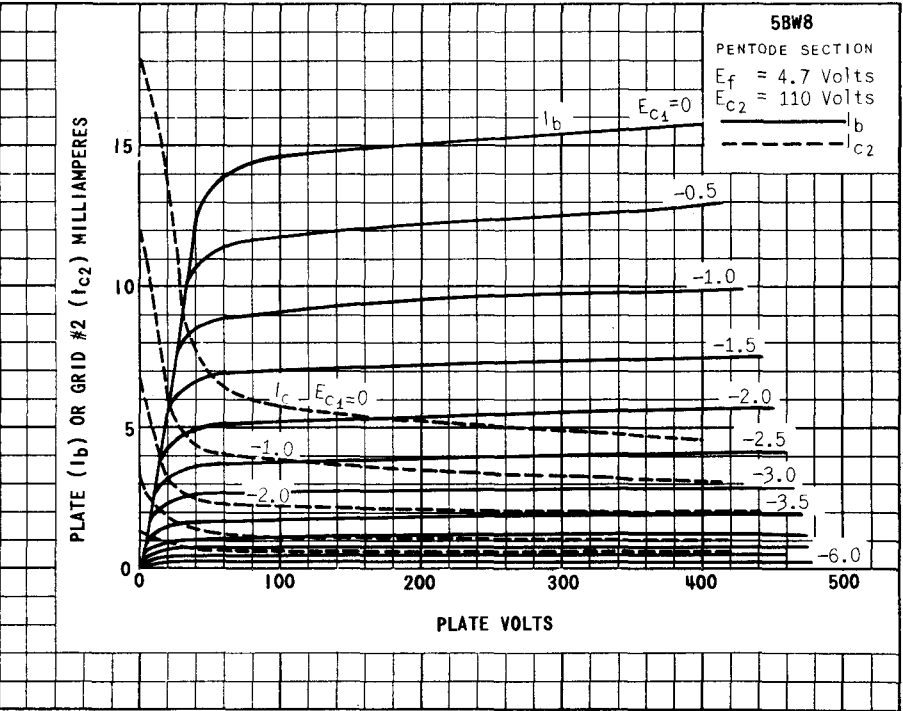
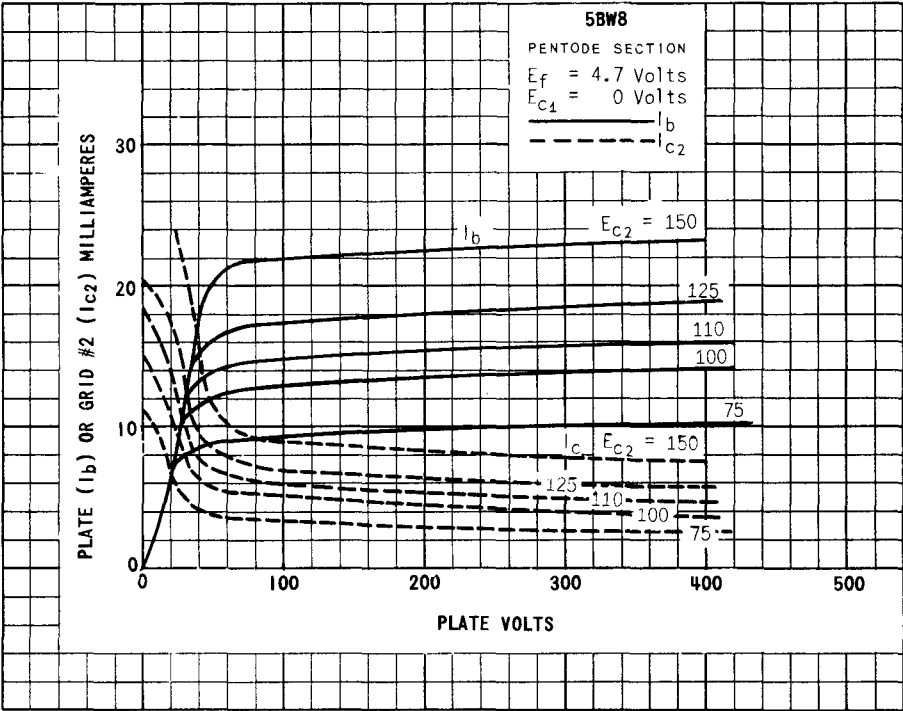
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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE	4.7	VOLTS
HEATER CURRENT	0.6±6%	AMP.
PLATE VOLTAGE	250	VOLTS
SCREEN VOLTAGE	110	VOLTS
CATHODE-BIAS RESISTOR	68	OHMS
PLATE RESISTANCE (APPROX.)	0.25	MEGOHMS
TRANSCONDUCTANCE	5200	μMHOS
PLATE CURRENT	10	MA.
SCREEN CURRENT	3.5	MA.
GRID #1 VOLTAGE (APPROX.) $I_b = 10 \mu\text{AMPS}$	-10	VOLTS
AVERAGE DIODE CURRENT (EACH DIODE) WITH 5 VOLTS DC APPLIED	20	MA.

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.





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