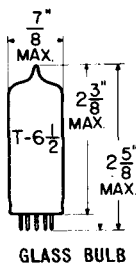


TUNG-SOL

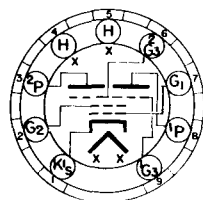
DUAL PENTODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER

4.2 VOLTS 0.45 AMP.

ANY MOUNTING POSITION



BOTTOM VIEW

SMALL BUTTON
9 PIN BASE

9LW

THE 4GS8 IS A DUAL PENTODE WITH A SEPARATE PLATE AND A SEPARATE #3 GRID IN THE 9PIN MINIATURE CONSTRUCTION. IT IS PRIMARILY INTENDED FOR SERVICE AS A COMBINED SYNC SEPARATOR-CLIPPER AND AGC TUBE IN TELEVISION RECEIVERS. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME THE 4GS8 IS IDENTICAL TO THE 3GS8 AND THE 6GS8.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID #3 TO PLATE (EACH SECTION)	2.0	$\mu\mu\text{f}$
GRID #1 TO ALL	6.0	$\mu\mu\text{f}$
GRID #3 (EACH SECTION) TO ALL	3.8	$\mu\mu\text{f}$
PLATE (EACH SECTION) TO ALL	3.2	$\mu\mu\text{f}$
GRID #3 (SECTION #1) TO		
GRID #3 (SECTION 2) (MAX.)	0.015	$\mu\mu\text{f}$

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM A

HEATER VOLTAGE	4.2	VOLTS
MAXIMUM PLATE VOLTAGE (EACH SECTION)	300	VOLTS
MAXIMUM GRID #2 VOLTAGE	150	VOLTS
MAXIMUM POSITIVE DC GRID #3 VOLTAGE (EACH SECTION)	3.0	VOLTS
MAXIMUM NEGATIVE DC GRID #3 VOLTAGE (EACH SECTION)	50	VOLTS
MAXIMUM PEAK POSITIVE GRID #3 VOLTAGE (EACH SECTION)	50	VOLTS
MAXIMUM NEGATIVE DC GRID #1 VOLTAGE	50	VOLTS
MAXIMUM PLATE DISSIPATION (EACH SECTION)	1.1	WATTS
MAXIMUM GRID #2 DISSIPATION	0.75	WATTS
MAXIMUM DC CATHODE CURRENT	12	MA.
MAXIMUM GRID #1 CIRCUIT RESISTANCE	0.5	MEGOHM
MAXIMUM GRID #3 CIRCUIT RESISTANCE (EACH SECTION)	0.5	MEGOHM
MAXIMUM HEATER-CATHODE VOLTAGE:		
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
HEATER WARM-UP TIME (APPROX.) *	11.0	SECONDS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

BOTH SECTIONS OPERATING

HEATER VOLTAGE		4.2	VOLTS
HEATER CURRENT		0.45	AMP.
PLATE VOLTAGE (EACH SECTION)	100	100	VOLTS
GRID #2 VOLTAGE	67.5	67.5	VOLTS
GRID #3 VOLTAGE (EACH SECTION)	-10	0	VOLTS
GRID #1 VOLTAGE	NOTE B	NOTE B	
PLATE CURRENT (EACH SECTION)		2.0	MA.
GRID #2 CURRENT	6.0	3.6	MA.
CATHODE CURRENT	6.1	7.7	MA.

EACH SECTION OPERATING SEPARATELY WITH PLATE AND GRID #3 OF OPPOSITE SECTION GROUNDED.

PLATE VOLTAGE	100	100	VOLTS
GRID #2 VOLTAGE	67.5	67.5	VOLTS
GRID #3 VOLTAGE	0	0	VOLTS
GRID #1 VOLTAGE	0	NOTE B	
PLATE CURRENT		2.0	MA.
GRID #3 TRANSCONDUCTANCE		270	μ MHOS
GRID #1 TRANSCONDUCTANCE	1200		μ MHOS
EC3 FOR $I_b = 100 \mu A$ (APPROX.)		-3.7	VOLTS
EC1 FOR $I_b = 100 \mu A$ (APPROX.)		-2.0	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 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

^A DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST-PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

^B GRID CURRENT ADJUSTED FOR 100 μA DC.