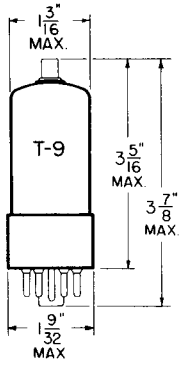
TUNG-SOL

TRIODE PENTODE

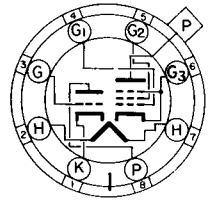


GLASS BULB
SKIRTED MINIATURE CAP

COATED UNIPOTENTIAL CATHODE

HEATER
15.0 VOLTS 0.6 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
SHORT INTERMEDIATE SHELL 8 PIN OCTAL
8GS

THE 15A8 IS A MEDIUM MU TRIODE AND BEAM PENTODE DESIGNED FOR USE AS A COMBINED VERTICAL DEFLECTION OSCILLATOR AND AMPLIFIER. 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.

DIRECT INTERELECTRODE CAPACITANCES – APPROX.

	TRIODE	PENTODE	
GRID #1 TO PLATE	3.4	0.7	μμf
INPUT	2.6	11	μμf
OUTPUT	0.9	5.0	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
CLASS A_1 AMPLIFIER

	TRIODE	PENTODE	
HEATER VOLTAGE	15.0		VOLTS
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
MAXIMUM PLATE VOLTAGE	300	300	VOLTS
MAXIMUM GRID #2 VOLTAGE		150	VOLTS
MAXIMUM PLATE DISSIPATION	2.5	10	WATTS
MAXIMUM GRID #2 DISSIPATION		1.25	WATTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE			
FIXED BIAS	1.0	0.1	MEGOHM
SELF BIAS		0.5	MEGOHM
HEATER WARM-UP TIME[A]		11	SECONDS

[A] 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.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

RATINGS -- CONT'D

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

VERTICAL DEFLECTION OSCILLATOR AND AMPLIFIER[B]

	TRIODE AS OSCILLATOR	PENTODE AS TRIODE CONNECTED AMPLIFIER[C]	
HEATER VOLTAGE	15.0		VOLTS
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
MAXIMUM PLATE VOLTAGE	300	300	VOLTS
MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE (ABSOLUTE MAXIMUM)		1 200	VOLTS
MAXIMUM PEAK NEGATIVE PULSE GRID #1 VOLTAGE	400	250	VOLTS
MAXIMUM PLATE DISSIPATION[D]	2.5	7.5	WATTS
MAXIMUM AVERAGE CATHODE CURRENT	20	40	MA.
MAXIMUM PEAK CATHODE CURRENT	70	140	MA.
MAXIMUM GRID #1 CIRCUIT RESISTANCE			
SELF BIAS	2.2	2.2	MEGOHMS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	TRIODE		PENTODE	PENTODE TRIODE CONNECTED[C]	
HEATER VOLTAGE	15.0	15.0	15.0	15.0	VOLTS
HEATER CURRENT	0.6	0.6	0.6	0.6	AMP.
PLATE VOLTAGE	90	250	110	225	VOLTS
GRID #1 VOLTAGE	0	-8	-7.5	-30	VOLTS
GRID #2 VOLTAGE			110		VOLTS
PLATE CURRENT	9	9	45	25	MA.
TRANSCONDUCTANCE	2 600	2 600	7 300	3 800	μMHOS
AMPLIFICATION FACTOR	20	20		6.0	
PLATE RESISTANCE (APPROX.)	7 700	7 700	13 000	1 600	OHMS
PLATE CURRENT AT E_c=-12.5V.		2.3			MA.
PLATE CURRENT AT E_c=-38V.				7.4	MA.
GRID #1 VOLTAGE FOR I_b=50μA	-6.3	-17			VOLTS
GRID #1 VOLTAGE FOR I_b=0.5 MA.				-46	VOLTS

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

[C] GRID #2 CONNECTED TO PLATE.

[D] IN STAGES OPERATING WITH GRID LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN ABSENCE OF EXCITATION.