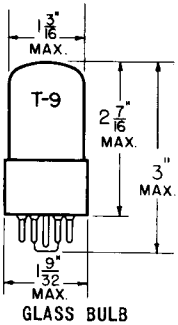
TUNG-SOL

DOUBLE TRIODE



GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER

9.7 VOLTS 0.60 AMP.

ANY MOUNTING POSITION

BOTTOM VIEW

SHORT INTERMEDIATE SHELL

8 PIN BASE

8BD

THE 10EG7 IS A DISSIMILAR DOUBLE TRIODE INTENDED FOR USE IN TELEVISION RECEIVERS EMPLOYING SERIES STRING HEATERS. SECTION #1 IS DESIGNED FOR USE AS A VERTICAL DEFLECTION OSCILLATOR; SECTION #2 IS DESIGNED FOR USE AS A VERTICAL DEFLECTION AMPLIFIER.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

	SECT. #1	SECT. #2	
GRID TO PLATE	4.4	9.5	μμf
INPUT: G TO (H + K)	2.2	7.0	μμf
OUTPUT: P TO (H + K)	0.6	1.6	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

VERTICAL DEFLECTION OSCILLATOR AND AMPLIFIER[B]

	SECT. #1 OSCILLATOR		SECT. #2 AMPLIFIER	
HEATER VOLTAGE		9.7		VOLTS
MAXIMUM PLATE VOLTAGE	330		330	VOLTS
MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE	---		1500	VOLTS
MAXIMUM PEAK NEGATIVE PULSE GRID VOLTAGE	400		250	VOLTS
MAXIMUM PLATE DISSIPATION[C]	1.5		10	WATTS
MAXIMUM AVERAGE CATHODE CURRENT	22		50	MA.
MAXIMUM PEAK CATHODE CURRENT	77		175	MA.
MAXIMUM GRID CIRCUIT RESISTANCE;				
SELF BIAS	2.2		2.2	MEGOHMS
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

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	SECT. #1[D]	SECT. #2[D]	
HEATER VOLTAGE	9.7		VOLTS
HEATER CURRENT	0.60		AMP.
PLATE VOLTAGE	250	150	VOLTS
GRID #1 VOLTAGE	−11	−17.5	VOLTS
PLATE CURRENT	5.5	45	MA.
TRANSCONDUCTANCE	2000	7500	μMHOS
AMPLIFICATION FACTOR	17.5	6.0	
PLATE RESISTANCE (APPROX.)	8750	800	OHMS
E_c FOR I_b = 10 μA (APPROX.)	−20	---	VOLTS
E_c FOR I_b = 100 μA (APPROX.)	---	−40	VOLTS
I_b AT E_c = −25 Vdc	---	8	MA.
I_b WITH E_b = 60 V AND E_c = 0V		95	MA.

*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.

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

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

[D]SECTION #1 CONNECTS TO PINS 4, 5, & 6. SECTION #2 CONNECTS TO PINS 1, 2, & 3.