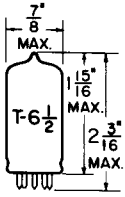
TUNG-SOL

TRIODE TETRODE

MINIATURE TYPE



GLASS BULB

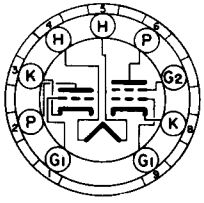
COATED UNIPOTENTIAL CATHODE

HEATER

18.9 VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

MINIATURE BUTTON
9 PIN BASE

9FX

THE 19CL8A IS A SHARP CUTOFF TETRODE AND MEDIUM-MU TRIODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR USE, PRIMARILY AS A COMBINED TRIODE OSCILLATOR AND TETRODE MIXER IN VHF TELEVISION TUNERS. 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 RATINGS, THE 19CL8A IS IDENTICAL TO THE 6CL8A.

DIRECT INTERELECTRODE CAPACITANCES

	WITH[B] SHIELD #315	WITHOUT SHIELD	
TRIODE:			
GRID TO PLATE (G TO P)	1.8.	1.8	μμf
INPUT: G TO (H+K)	2.7	2.7	μμf
OUTPUT: P TO (H+K)	1.2	0.4	μμf
TETRODE:			
GRID TO PLATE (G_1 TO P) (MAX.)	0.010	0.028	μμf
INPUT: G_1 TO (H+K+G_2)	5.0	5.0	μμf
OUTPUT: P TO (H+K+G_2)	3.4	2.4	μμf
CATHODE TO HEATER (EITHER SECTION APPROX.)	2.5[C]	2.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	TRIODE	TETRODE	
HEATER VOLTAGE	18.9	18.9	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK	200	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC	100	100	VOLTS
TOTAL DC AND PEAK	200	200	VOLTS
MAXIMUM PLATE VOLTAGE	300	300	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE		300	VOLTS
MAXIMUM GRID #2 VOLTAGE	SEE RATING CHART		
MAXIMUM PLATE DISSIPATION	2.7	2.8	WATTS
MAXIMUM GRID #2 DISSIPATION	---	0.5	WATT
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	0	VOLTS

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS—CONT'D.

	TRIODE	TETRODE	
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
FIXED BIAS	0.5	0.25	MEGOHM
CATHODE BIAS	1.0	1.0	MEGOHM
HEATER WARM-UP TIME[A]	11.0		SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

	TETRODE SECTION		TRIODE SECTION	
HEATER VOLTAGE	18.9	18.9	18.9	VOLTS
HEATER CURRENT	0.15	0.15	0.15	AMP.
PLATE VOLTAGE	100	125	125	VOLTS
SCREEN VOLTAGE	100	125	---	VOLTS
GRID #1 VOLTAGE	0	-1.0	---	VOLTS
CATHODE-BIAS RESISTOR	---	---	56	OHMS
AMPLIFICATION FACTOR	---	---	40	
PLATE RESISTANCE (APPROX.)	---	100000	5000	OHMS
TRANSCONDUCTANCE	8200	6400	8000	μMHOS
PLATE CURRENT	---	12	15	MA.
SCREEN CURRENT	---	4.0	---	MA.
GRID #1 VOLTAGE (APPROX.)				
I_b = 10 μAMPERES	---	-10	-9	VOLTS

[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.