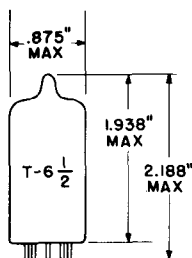


TUNG-SOL

TRIODE PENTODE

MINIATURE TYPE



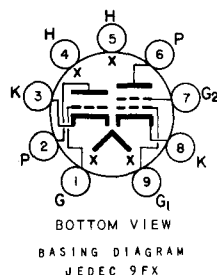
GLASS BULB
MINIATURE BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2

COATED UNIPOTENTIAL CATHODE

FOR

VHF TELEVISION TUNER
APPLICATIONS

ANY MOUNTING POSITION



THE 6CL8A 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. IT IS UNILATERALLY INTER-CHANGEABLE, BOTH ELECTRICALLY AND MECHANICALLY, WITH THE 6CL8 AND DIFFERS PRIMARILY FROM THE 6CL8 IN HAVING A TETRODE SECTION WITH LOWER GRID-PLATE CAPACITANCE AND HIGHER TRANSCONDUCTANCE. EXCEPT FOR HEATER RATINGS, THE 6CL8A IS IDENTICAL TO THE 5CL8A.

→ DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD ^A	WITHOUT SHIELD	
TETRODE:			
GRID #1 TO PLATE: (G ₁ TO P) (MAX.)	0.01	0.02	pf
INPUT: G ₁ TO (K+G ₂ +H+I.S.)	5.0	5.0	pf
OUTPUT: P TO (K+G ₂ +H+I.S.)	3.0	2.0	pf
CATHODE TO HEATER: (K TO H)	3.0 ^B	3.0	pf
TRIODE:			
GRID TO PLATE: (G TO P)	1.8	1.8	pf
INPUT: G TO (TK+TEK+H+I.S.)	2.8	2.8	pf
OUTPUT: G TO (TK+TEK+H+I.S.)	2.0	1.5	pf
CATHODE TO HEATER: (TK TO H)	3.0 ^B	3.0	pf
TETRODE GRID #1 TO TRIODE PLATE			
(TEG ₁ TO TP) (MAX.)	0.01	0.015	pf
TETRODE PLATE TO TRIODE PLATE			
(TEP TO TP) (MAX.)	0.03	0.15	pf

^A EXTERNAL SHIELD #315 CONNECTED TO PIN #4.

^B EXTERNAL SHIELD #315 CONNECTED TO PIN #6.

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	450	MA.
HEATER SUPPLY LIMITS: CURRENT OPERATION		450±27	MA.
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 ^A		11	SECONDS

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

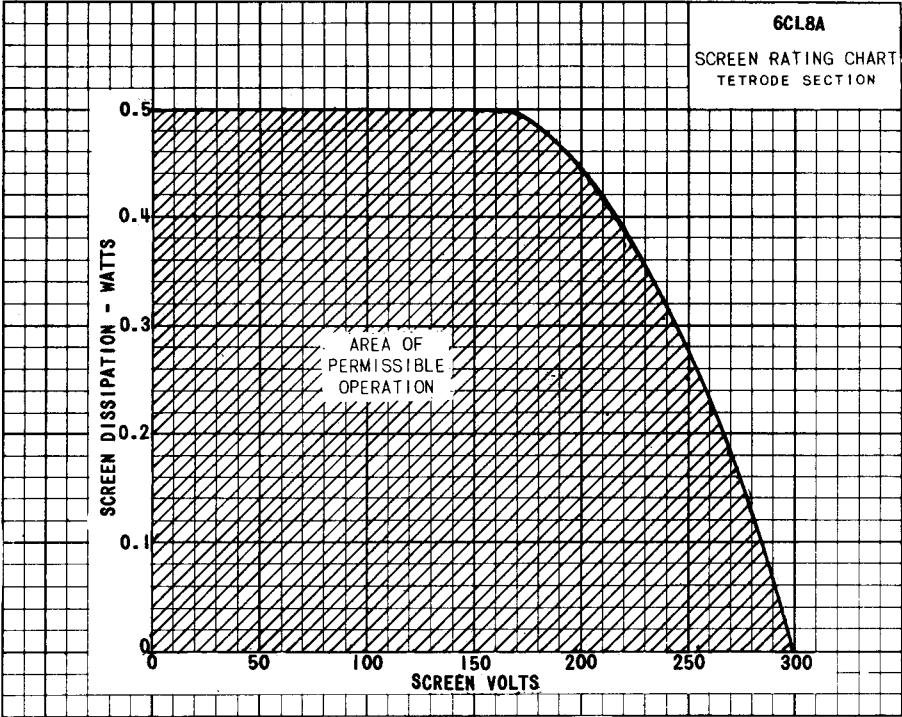
TETRODE PLATE VOLTAGE	330	VOLTS
TRIODE PLATE VOLTAGE	330	VOLTS
GRID #2 SUPPLY VOLTAGE	330	VOLTS
GRID #2 VOLTAGE	SEE RATING CHART	
TETRODE PLATE DISSIPATION	3.0	WATTS
GRID #2 DISSIPATION	0.55	WATT
POSITIVE DC TETRODE GRID #1 VOLTAGE	0	VOLTS
POSITIVE DC TRIODE GRID VOLTAGE	0	VOLTS
TRIODE PLATE DISSIPATION	2.5	WATTS
TETRODE GRID #1 CIRCUIT RESISTANCE:		
FIXED BIAS	0.25	MEGOHM
CATHODE BIAS	1.0	MEGOHM
TRIODE GRID CIRCUIT RESISTANCE:		
FIXED BIAS	0.5	MEGOHM
CATHODE BIAS	1.0	MEGOHM

→ TYPICAL OPERATING CHARACTERISTICSCLASS A₁ AMPLIFIER

	TRIODE	TETRODE	
PLATE VOLTAGE	125	125	VOLTS
GRID #2 VOLTAGE	---	125	VOLTS
GRID #1 VOLTAGE	-1.0	-1.0	VOLTS
TRANSCONDUCTANCE	8000	6500	μMHOS
PLATE CURRENT	14.0	12.0	MA.
GRID #2 CURRENT	---	4.0	MA.
PLATE RESISTANCE (APPROX.)	5000Ω	0.2	MEGOHM
AMPLIFICATION FACTOR	40	---	
GRID #1 VOLTAGE (APPROX.) FOR I _b =20 μA	-9	-9	VOLTS
ZERO BIAS TRANSCONDUCTANCE			
(WITH E _b =100 V, E _{c2} =70 V.)	---	7000	μMHOS

^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 THE 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.

→ INDICATES A CHANGE.



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