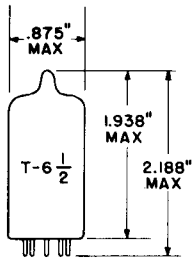


TUNG-SOL

TRIODE PENTODE

MINIATURE TYPE



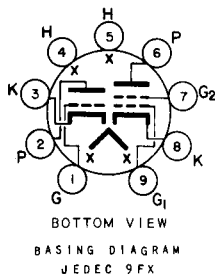
GLASS BULB
 MINIATURE BUTTON
 9 PIN BASE E9-1
 OUTLINE DRAWING
 JEDEC 6-2

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 INTERCHANGEABLE, 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.

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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

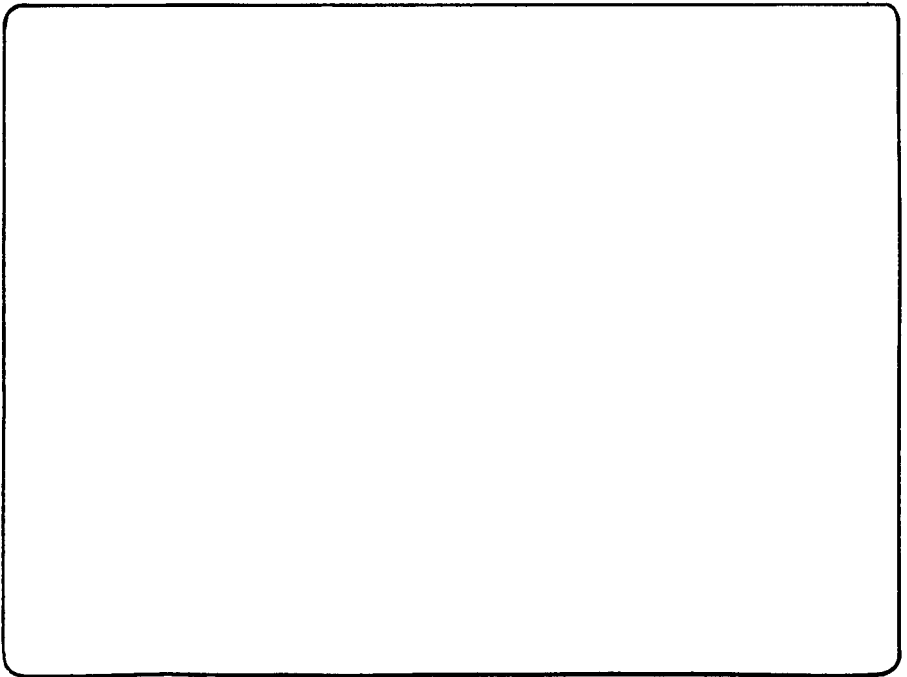
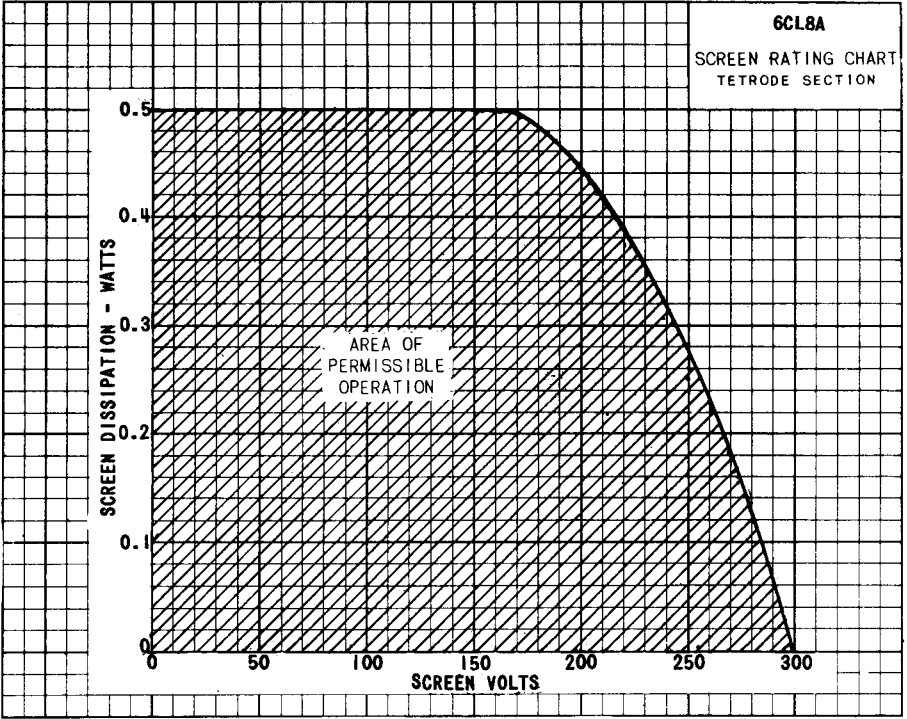
→ TYPICAL OPERATING CHARACTERISTICS

CLASS 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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