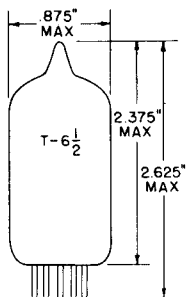


## TUNG-SOL

## TRIODE PENTODE

## MINIATURE TYPE

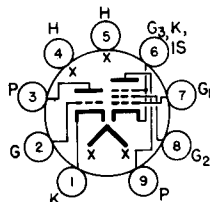


GLASS BULB  
MINIATURE BUTTON  
9 PIN BASE E9-1  
OUTLINE DRAWING  
JEDEC 6-3

COATED UNIPOTENTIAL CATHODE

FOR USE AS A SYNC SEPARATOR  
AND VIDEO AMPLIFIER

ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 9DX

THE 8AW8A IS A SHARP CUT-OFF PENTODE AND A HIGH MU TRIODE FEATURING A CONTROLLED PLATE KNEE CHARACTERISTIC FOR THE PENTODE SECTION. THE TRIODE SECTION MAY BE USED AS A SYNC SEPARATOR WHILE THE PENTODE SECTION IS DESIGNED TO SERVE AS A VIDEO 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

	WITH SHIELD <sup>A</sup>	WITHOUT SHIELD	
PENTODE GRID 1 TO PENTODE PLATE (PG1 TO PP) MAX.	→ 0.05	→ 0.06	pf
PENTODE INPUT: PG TO (H+PG2+PK,G3,I.S.)	10	10	pf
PENTODE OUTPUT: PP TO (H+ PG2+PK,G3,I.S.)	4.5	3.6	pf
TRIODE GRID TO TRIODE PLATE: (TG TO TP)	2.2	2.2	pf
TRIODE INPUT: TG TO (H+TK-PK, PG3, I.S.)	3.4	3.2	pf
TRIODE OUTPUT: TP TO (H+TK-PK, PG3, I.S.)	3.0	1.8	pf
PENTODE GRID 1 TO TRIODE PLATE: (PG1 TO TP) MAX.	.005	.008	pf
PENTODE PLATE TO TRIODE PLATE: (PP TO TP) MAX.	.025	.150	pf

<sup>A</sup> EXTERNAL SHIELD 315 CONNECTED TO PIN 4 AND PIN 5.

CONTINUED ON FOLLOWING PAGE

→ INDICATES A CHANGE.

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	8.4 VOLTS	450	MA.
HEATER WARM-UP TIME <sup>B</sup>		11	SECONDS
HEATER SUPPLY LIMITS:			
CURRENT OPERATION (SERIES HEATER OPERATION)		450±30	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

## MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	TRIODE	PENTODE	
PLATE VOLTAGE	330	330	VOLTS
GRID 2 VOLTAGE	----	SEE J5-C4-2	
GRID 2 SUPPLY VOLTAGE	----	330	VOLTS
PLATE DISSIPATION	1.1	3.75	WATTS
GRID 2 DISSIPATION		1.1	WATTS
POSITIVE DC GRID 1 VOLTAGE	0	0	VOLTS
GRID 1 CIRCUIT RESISTANCE			
FOR CATHODE-BIAS OPERATION	1.0	1.0	MEGOHM
FOR FIXED BIAS OPERATION	0.5	0.25	MEGOHM

## TYPICAL OPERATING CHARACTERISTICS

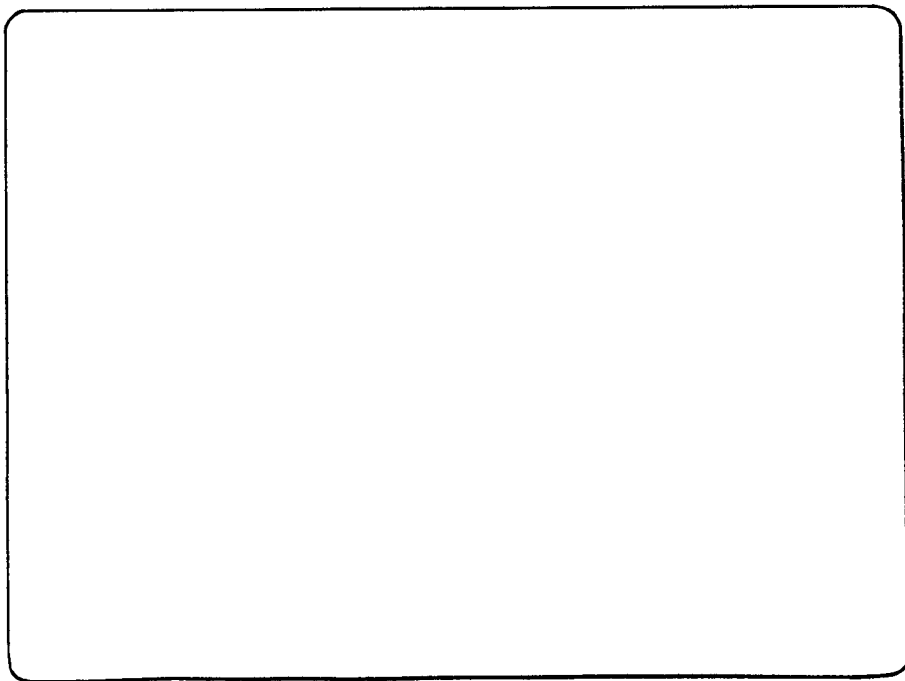
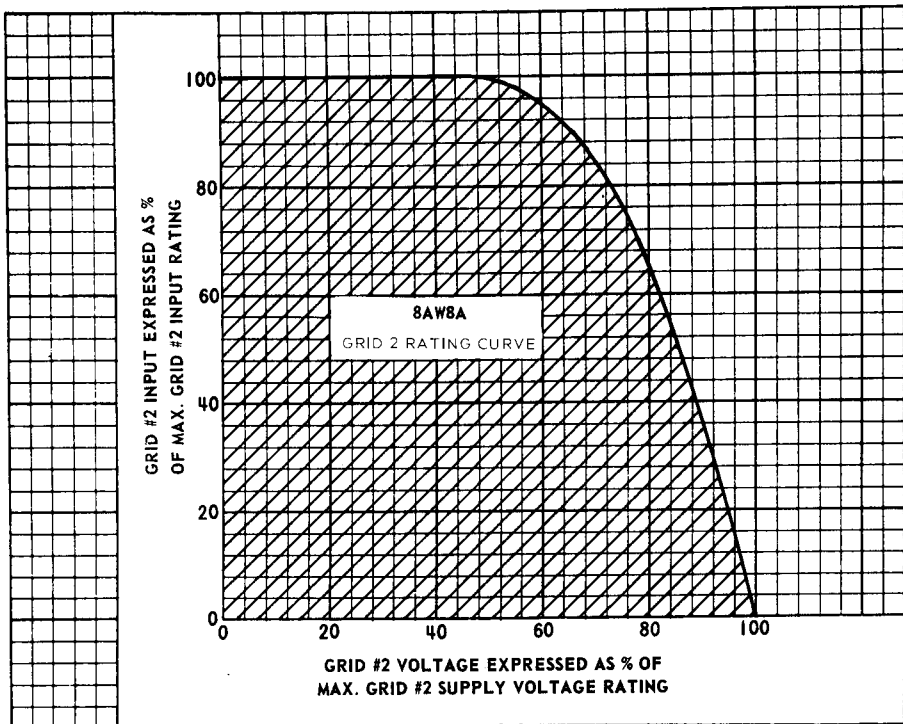
CLASS A1 AMPLIFIER

	TRIODE	PENTODE		
PLATE SUPPLY VOLTAGE	200	65	150	VOLTS
GRID 2 SUPPLY VOLTAGE		150	150	VOLTS
GRID 1 VOLTAGE	-2	0		VOLTS
CATHODE BIAS RESISTOR	----	----	150	OHMS
AMPLIFICATION FACTOR	70	----	----	
PLATE RESISTANCE (APPROX.)		----	200	KOHMS
TRANSCONDUCTANCE	4000	----	9500	μMHOS
PLATE CURRENT	4.0	46	15.0	MA.
GRID 2 CURRENT		15	3.5	MA.
GRID 1 VOLTAGE (APPROX.)				
FOR I <sub>b</sub> = 20 μA	-5		-8	VOLTS

<sup>B</sup> 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.

<sup>C</sup> FOR PARALLEL HEATER OPERATION, THE EQUIPMENT DESIGNER SHALL SO DESIGN THE EQUIPMENT THAT THE HEATER VOLTAGE IS AT THE SPECIFIED BOGEY VALUE, WITH HEATER SUPPLY VARIATIONS RESTRICTED TO MAINTAIN HEATER VOLTAGE WITHIN THE SPECIFIED TOLERANCE.

FOR SERIES HEATER OPERATION, THE EQUIPMENT DESIGNER SHALL SO DESIGN THE EQUIPMENT THAT HEATER CURRENT IS AT THE SPECIFIED BOGEY VALUE, WITH HEATER SUPPLY VARIATIONS RESTRICTED TO MAINTAIN HEATER CURRENT WITHIN THE SPECIFIED TOLERANCE.



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