

MEDIUM-MU TRIODE, SHARP-CUTOFF PENTODE TYPES 5U8, 6U8 AND 6U8-A

The 5U8, 6U8 and 6U8-A are 9-pin miniature triode-pentode types designed for service as combined oscillator and mixer in television and frequency modulation receivers. Each section of these tubes has a separate cathode and is electrically independent. The tubes perform well at the higher frequencies and may be used advantageously in applications normally requiring two tubes.

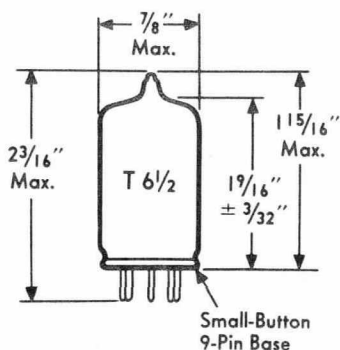
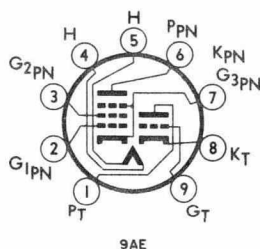
The 5U8 and 6U8-A have been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL

Cathode.....	Coated Unipotential		
Heater:	5U8	6U8	6U8-A
Voltage (ac or dc)	4.7	6.3 ± 10%	6.3 Volts
Current	0.60 ± 6%	0.45	0.45 ± 6% Ampere
Warm-up Time (Note 1)	11	—	11 Seconds
Direct Interelectrode Capacitances:			
Triode Unit:	Shielded (Note 2)	Unshielded	
Grid to Plate.....	1.8	1.8	μμf
Input.....	2.8	2.8	μμf
Output.....	2.0	1.5	μμf
Pentode Unit:			
Grid 1 to Plate	0.007 max.	0.015 max.	μμf
Input.....	5	5	μμf
Output.....	3.5	2.6	μμf
Coupling:			
Pentode Grid to Triode			
Plate	0.20	0.2	μμf
Pentode Plate to Triode			
Plate	0.02	0.1	μμf
Heater to Cathode			
Each Unit (Note 3).....	3.0	3.0	μμf

MECHANICAL

Bulb.....	T-6½
Base.....	Small-Button Noval 9-Pin (JEDEC E9-1)
Outline	6-2
Basing	9AE
Mounting Position	Any



CONVERTER SERVICE

MAXIMUM RATINGS

Design Maximum Values

	Triode	Pentode	
	Unit	Unit	
Plate Voltage	330	330	max. Volts
Grid 2 Supply Voltage.....	—	330	max. Volts
Grid 2 Voltage	—	See Grid 2 Input	Rating Chart
Plate Dissipation	2.5	3.0	max. Watts
Grid 2 Dissipation	—	0.55	max. Watts
Grid 1 Voltage, Positive			
Bias Value.....	0	0	max. Volts
Heater-Cathode Voltage:			
Heater Negative with Respect to Cathode			
Total DC + Peak	200	200	max. Volts
Heater Positive with Respect to Cathode			
DC Component	100	100	max. Volts
DC + Peak	200	200	max. Volts

MAXIMUM CIRCUIT VALUES

Grid 1 Circuit Resistance:	
With Cathode Bias	1.0 max. Megohms
With Fixed Bias.....	0.5 max. Megohms

TYPICAL OPERATION

	Triode	Pentode	
	Unit	Unit	
Plate Supply Voltage	125	125	Volts
Grid 2 Voltage	—	110	Volts
Grid 1 Voltage	—1	—1	Ohms
Amplification Factor	40	—	—
Plate Resistance (Approx.)	—	200000	Ohms
Transconductance	7500	5000	μmhos
Grid 1 Bias (Approx.) for Plate Current of 20 μamp.	—9	—8	Volts
Plate Current	13.5	9.5	Ma.
Grid 2 Current.....	—	3.5	Ma.

NOTES

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.
2. With JEDEC shield 315 connected to pin 4.
3. With JEDEC shield 315 connected to pin 6.

