

HIGH-MU TRIODE TETRODE TYPES 6JA8 AND 10JA8

The 6JA8 and 10JA8 are 9-pin miniature high-mu triode and tetrode types designed for service in color and black-and-white television receivers. The triode unit is designed for service as a sync separator, sync clipper and phase inverter while the tetrode unit is designed for operation as a video amplifier.

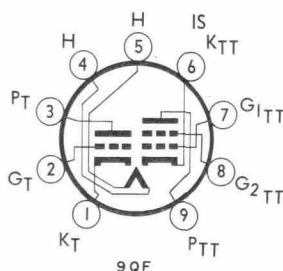
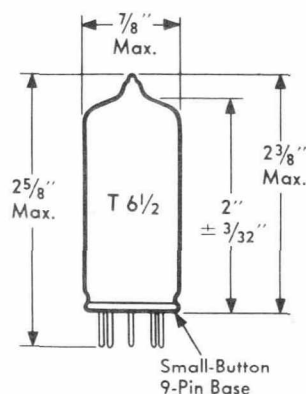
The 10JA8 has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a heater current rating of 450 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL

Cathodes	Coated Unipotential	
Heater:	6JA8	10JA8
Voltage (ac or dc)	6.3 ± 10%	10.5 Volts
Current	0.75	0.45 ± 6% Ampere
Warm-up Time (Approx.) (Note 1)	—	11 Seconds
Direct Interelectrode Capacitances: (Unshielded)		
Triode:		
Grid to Plate	4.0	μμf
Input	2.5	μμf
Output	0.4	μμf
Pentode:		
Grid 1 to Plate	0.1 max.	μμf
Input	11	μμf
Output	4.8	μμf
Coupling:		
Pentode Grid 1 to Triode Plate	0.005 max.	μμf
Pentode Plate to Triode Grid	0.018 max.	μμf
Pentode Plate to Triode Plate	0.17 max.	μμf

MECHANICAL

Bulb	T-6½
Base	Miniature 9-Pin (JEDEC E9-1)
Outline	6-3
Basing	9QF
Mounting Position	Any



RATINGS

Design Maximum Values

	Triode	Tetrode	
Plate Voltage	300	330 max.	Volts
Grid 2 Supply Voltage	—	330 max.	Volts
Grid 2 Voltage	—	See Grid 2 Input	
		Rating Curve	
Plate Dissipation	1	5 max.	Watts
Grid 2 Dissipation	—	1.5 max.	Watts
Positive Grid 1 Bias Voltage	0	0 max.	Volts
Grid 1 Circuit Resistance			
Fixed Bias	0.5	0.25 max.	Megohm
Cathode Resistor Bias	1.0	1.0 max.	Megohm
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
Total DC + Peak	200	200 max.	Volts

CHARACTERISTICS AND TYPICAL OPERATION

Triode Unit:

Plate Voltage	135	200	Volts
Grid Voltage	—2	—2	Volts
Amplification Factor	60	70	—
Plate Resistance	23000	17000	Ohms
Transconductance	2600	4000	μmhos
Plate Current	2	4	Ma.
Grid 1 Cutoff Voltage	—4.8	—7	Volts

Tetrode Unit:

Plate Voltage	30	135	200	Volts
Grid 2 Voltage	135	135	135	Volts
Grid 1 Voltage	0	—1.5	—1.5	Volts
Plate Resistance	—	6600	7000	Ohms
Transconductance	—	12600	14000	μmhos
Plate Current (Note 2)	32	17	18	Ma.
Grid 2 Current (Note 2)	14	4.2	4	Ma.
Grid 1 Cutoff Voltage (Note 3)	—	—5	—5	Volts

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 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.
2. The zero-bias values can be measured by a method involving a re-current waveform such that the plate and grid 2 dissipation will be kept within ratings to prevent damage to the tube.
3. For plate current of 10 microamperes.

