

TRIODE-PENTODE CONVERTER TYPES 5EA8 and 6EA8

The 5EA8 and 6EA8 are 9-Pin miniature medium-mu triode and sharp-cutoff pentode types designed for service as combined oscillator and mixer in television receiver tuners using an intermediate frequency of approximately 40 mc.

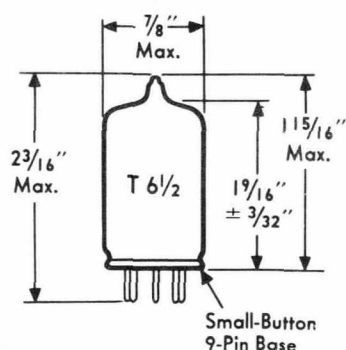
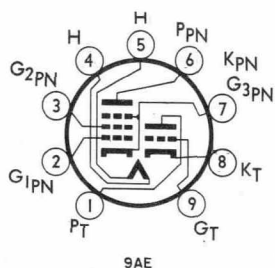
The 5EA8 and 6EA8 have been designed for use in receivers which employ series connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL:

Cathode.....	Coated Unipotential		
Heater:	5EA8	6EA8	
Voltage (ac or dc)	4.7	6.3	Volts
Current	0.60 ± 6%	0.45 ± 6%	Ampères
Warm-up Time ●.....	11	11	Seconds
Direct Interelectrode Capacitances:			
Triode Unit	Unshielded	Shielded #	
Grid to plate	1.7	1.7	μμf
Input	3.0	3.2	μμf
Output	0.3	1.1	μμf
Heater to Cathode.....	3.0	3.0 □	μμf
Pentode Unit			
Grid 1 to Plate.....	0.02 max.	0.01 max	μμf
Input	5.0	5.0	μμf
Output	2.6	3.4	μμf
Heater to Cathode.....	3.0	3.0 □	μμf

MECHANICAL:

Bulb	T-6½
Base	Miniature 9-pin (JEDEC E9-1)
Basing	9AE
Outline	6-2
Mounting	Any



MAXIMUM RATINGS

Design Maximum Values

	Triode Unit	Pentode Unit	
Plate Voltage	330	330	max. Volts
Grid 2 (Screen) Voltage....	--	See Grid 2 Input	
		Rating Curve	
Grid 2 Supply Voltage.....	--	330	max. Volts
Grid 1 (Control Grid) Voltage			
Positive Bias Value.....	0	0	max. Volts
Plate Dissipation.....	3.0	3.1	max. Watts
Grid 2 Input	--	0.55	max. Watt
Heater Cathode Voltage			
Heater Positive with			
Respect to Cathode			
DC Component	100	100	max. Volts
Total DC and Peak	200	200	max. Volts
Heater Negative with Respect			
to Cathode, Total DC and			
Peak	200	200	max. Volts

CHARACTERISTICS

	Triode Unit	Pentode Unit	
Plate Voltage	150	125	Volts
Grid 2 Voltage	--	125	Volts
Grid 1 Voltage	--	-1.0	Volts
Cathode Bias Resistor ...	56	--	Ohms
Amplification Factor	40	--	
Plate Resistance (approx.)..	5000	80000	Ohms
Transconductance	8500	6400	μmhos
Grid 1 Cutoff Bias ⊕.....	-12	-9	Volts
Plate Current	18	12	Ma.
Grid 2 Current	--	4.0	Ma.

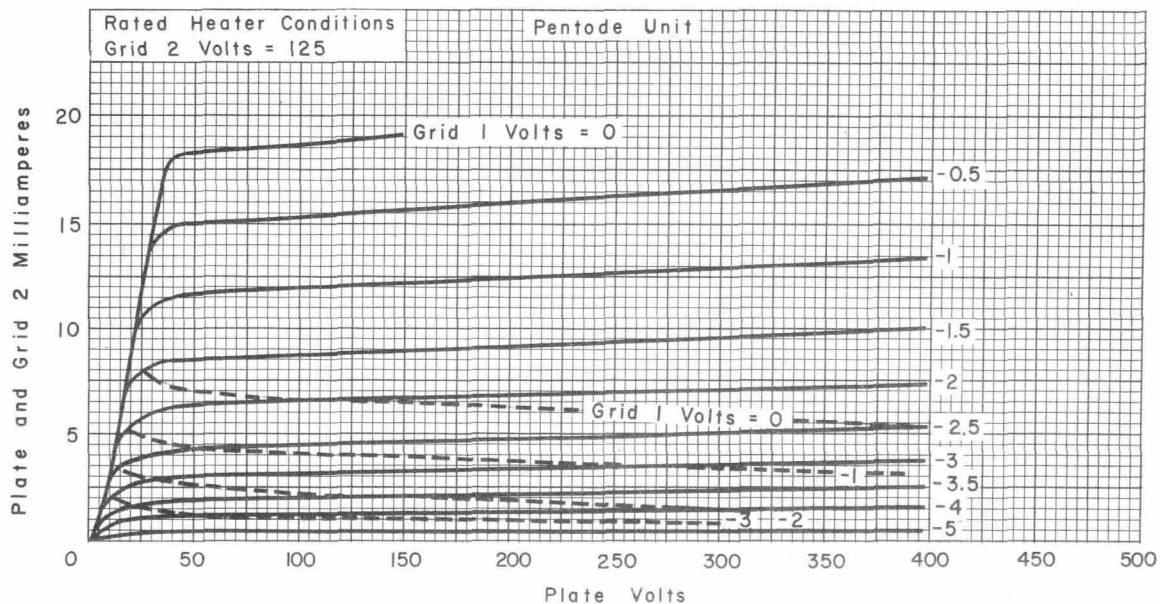
● Heater Warm-up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.

With JEDEC shield #315 connected to Cathode of unit under test.

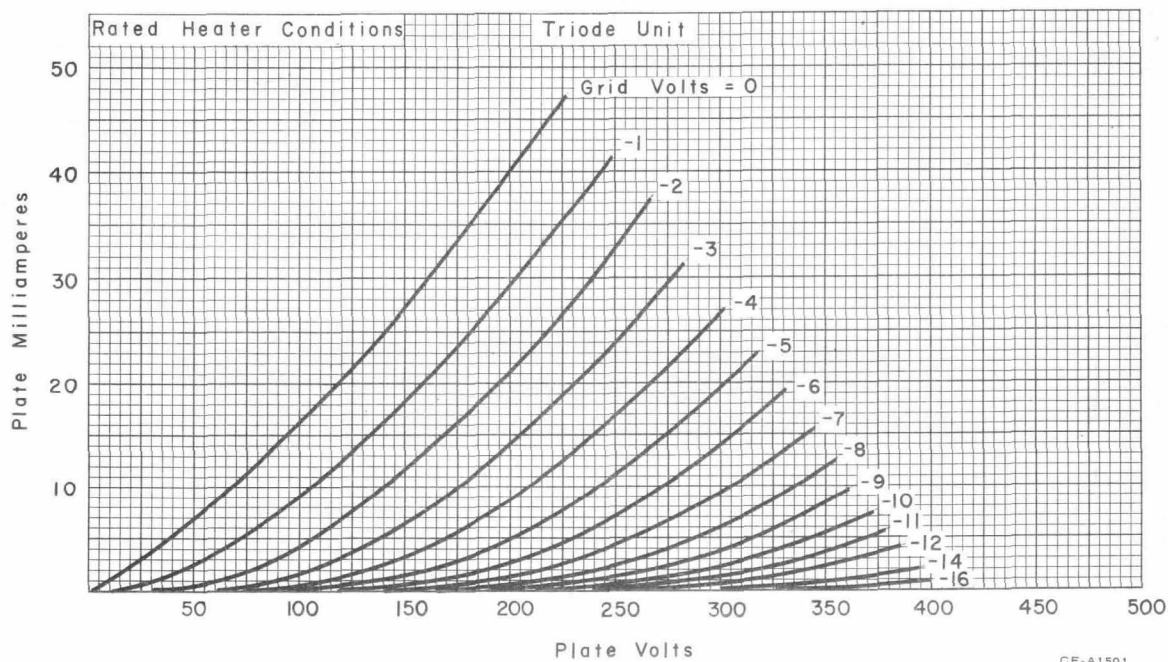
□ With JEDEC shield #315 connected to ground.

⊕ For plate current of 10 microamperes.

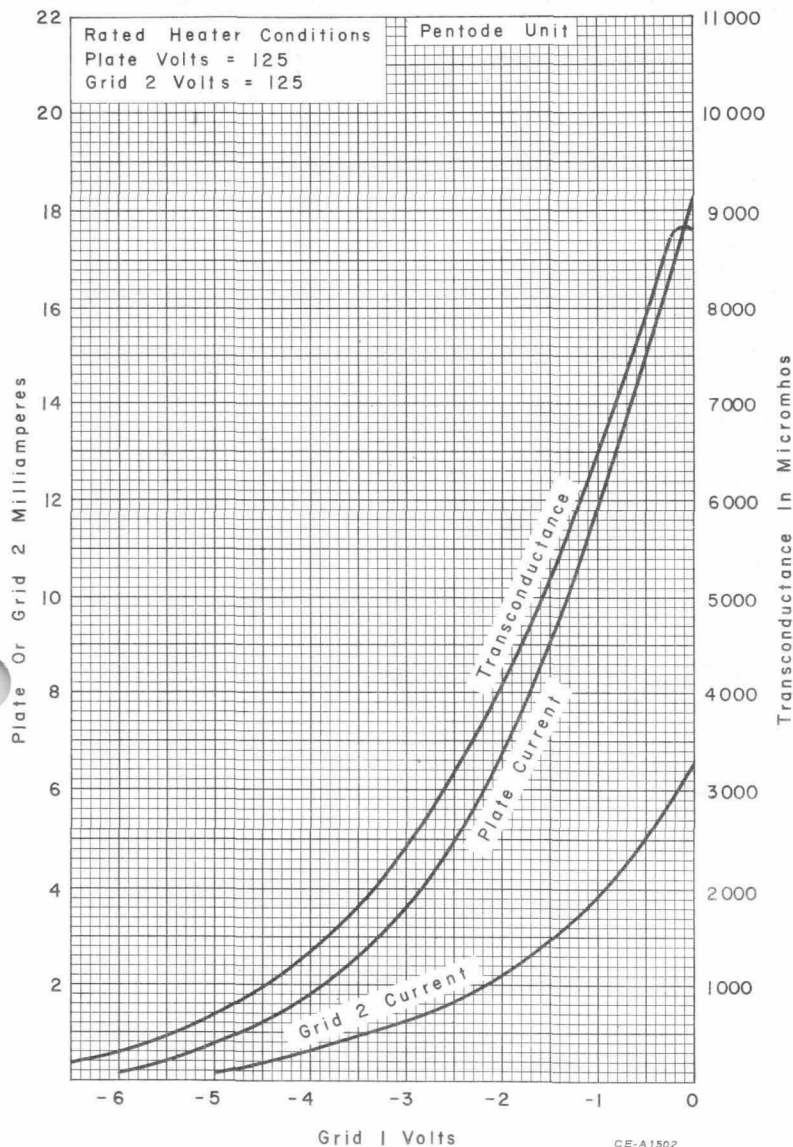
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS
Triode Unit

