

DUAL TRIODE TYPES 6CM7 AND 8CM7

The 6CM7 and 8CM7 are dual triodes with dissimilar sections designed for use in television receivers. Triode No. 1 (Pins No. 6, 7 & 8) is designed for service as a vertical deflection oscillator. Triode No. 2 (Pins No. 1, 3 & 9) is designed for operation as a high efficiency vertical deflection output amplifier.

The 6CM7 and 8CM7 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 heater warm-up characteristic is controlled.

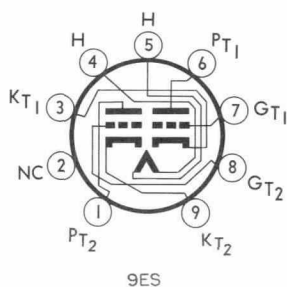
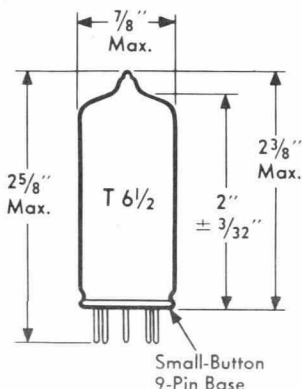
ELECTRICAL:

Cathodes	Coated Unipotential		
Heater:	6CM7	8CM7	
Voltage (ac or dc)	6.3	8.4	Volts
Current	0.60 ± 6%	0.45 ± 6%	Ampere
Warm-up Time ▲	11	11	Seconds
Direct Interelectrode Capacitances (Unshielded)			
	Unit 1	Unit 2	
Grid to Plate	3.8	3.0	μμf
Input	2	3.5	μμf
Output	0.5	0.4	μμf

MECHANICAL:

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

⊕ Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worse probable conditions. The tube manufacturer chooses these values to provide acceptable serviceability of the tube, talking responsibility for the effects of changes in operating conditions due to variations in tube characteristics. The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment control adjustment, load variation, signal variation, and environmental conditions.



MAXIMUM RATINGS: Design Maximum Values⊕

	Triode No. 1 as Vertical Deflection Oscillator	Triode No. 2 as Vertical Deflection Amplifier §	
Plate Voltage	550	550	max. Volts
Peak Positive Pulse Plate Voltage (Abs.Max.).	-	2200	max. Volts
Peak Negative Grid Voltage §	220	220	max. Volts
Plate Dissipation	1.45	6.0	max. Watts
Cathode Current	17	22	max. Ma.
Peak Cathode Current	77	77	max. Ma.
Heater-Cathode Voltage Heater Negative with Respect to Cathode Total D.C. and Peak.	200	200	max. Volts
Heater Positive with Respect to Cathode D.C. Component	100	100	max. Volts
Total D.C. and Peak.	200	200	max. Volts
Grid Circuit Resistance.	2.2	2.5 ♦	max. Meg.

CLASS A AMPLIFIER

CHARACTERISTICS AND TYPICAL OPERATION:

	Triode No. 1	Triode No. 2	
Plate Voltage	200	250	Volts
Grid Voltage	-7	-8	Volts
Plate Current	5	20	Ma.
Plate Resistance	10500	4100	Ohms
Transconductance	2000	4400	μmhos
Amplification Factor	21	38	
Grid Voltage for Plate Current of 1 Ma.	-10	-	Volts
Grid Cutoff Voltage*	-14	-	Volts

* For Plate Current of 10 microamperes.

▲ 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 three times rated heater voltage divided by rated heater current.

§ For operation in a 525-line, 30-frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Station, Federal Communications Commission". The duty cycle of the voltage pulse must not exceed 15 per cent of one scanning cycle.

♦ For cathode bias operation. For fixed bias, value is 1.0 megohm.

