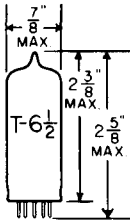


TUNG-SOL**DOUBLE TRIODE**
MINIATURE TYPE**GLASS BULB**

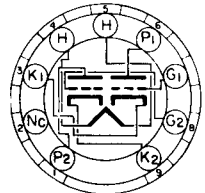
COATED UNIPOTENTIAL CATHODES

HEATER

8.4 VOLTS 0.45 AMP

AC OR DC

ANY MOUNTING POSITION

**BOTTOM VIEW**SMALL BUTTON NOVAL
9 PIN BASE

9ES

THE 8CM7 IS A MEDIUM-MU DOUBLE TRIODE OF THE 9 PIN MINIATURE TYPE CONTAINING TWO DISSIMILAR TRIODES IN ONE ENVELOPE. IT IS INTENDED FOR USE AS A VERTICAL DEFLECTION AMPLIFIER IN 450 MA. SERIES HEATER OPERATED TELEVISION RECEIVERS. 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 — APPROX.
WITH NO EXTERNAL SHIELD

	UNIT #1 OSCILLATOR	UNIT #2 AMPLIFIER	
GRID TO PLATE	3.8	3	μmf
GRID TO CATHODE AND HEATER	2	3.5	μmf
PLATE TO CATHODE AND HEATER	0.5	0.4	μmf

RATINGS^AINTERPRETED ACCORDING TO DESIGN CENTER SYSTEM^B

	UNIT #1 VERTICAL DEFLECTION OSCILLATOR	UNIT #2 VERTICAL DEFLECTION AMPLIFIER	
HEATER VOLTAGE		8.4	VOLTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE		200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		200 ^C	VOLTS
MAXIMUM DC PLATE VOLTAGE	500	500	VOLTS
MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE (ABSOLUTE MAXIMUM) ^D	---	2 200 ^E	VOLTS
MAXIMUM CATHODE CURRENT:			
PEAK	70	70	MA.
AVERAGE	15	20	MA.
MAXIMUM PLATE DISSIPATION	1.25	5.5	WATTS
MAXIMUM GRID CIRCUIT RESISTANCE:			
CATHODE BIAS	2.2	2.5	MEG OHMS
FIXED BIAS	2.2	1.0	MEG OHMS
GRID RESISTOR BIAS	2.2	---	MEG OHMS
HEATER WARM-UP TIME (APPROX.) ^F		11.0	SECONDS

^A FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE CONCERNING TELEVISION BROADCAST STATIONS", FEDERAL COMMUNICATIONS COMMISSION.

^B UNLESS OTHERWISE SPECIFIED.

^C THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

^D THIS RATING IS APPLICABLE WHERE THE DURATION OF THE VOLTAGE PULSE DOES NOT EXCEED 15% OF ONE VERTICAL SCANNING CYCLE. IN A 525-LINE, 30-FRAME SYSTEM 15% OF ONE VERTICAL SCANNING CYCLE IS 2.5 MILLISECONDS.

^E UNDER NO CIRCUMSTANCES SHOULD THIS ABSOLUTE VALUE BE EXCEEDED.

^F 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.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

	UNIT #1 OSCILLATOR	UNIT #2 AMPLIFIER	
HEATER VOLTAGE		8.4	VOLTS
HEATER CURRENT		0.45	AMP.
PLATE VOLTAGE	200	250	VOLTS
GRID VOLTAGE	-7	-18	VOLTS
AMPLIFICATION FACTOR	21	18	
PLATE RESISTANCE (APPROX.)	10 500	4 100	OHMS
TRANSCONDUCTANCE	2 000	4 400	μMHS
PLATE CURRENT	5	20	MA.
PLATE CURRENT FOR GRID VOLTAGE OF -10 VOLTS	1	---	MA.
GRID VOLTAGE (APPROX.) FOR I _b = 10 μA.	14	---	VOLTS

SIMILAR TYPE REFERENCE: Except for heater ratings, the 8CM7 is identical to the 6CM7.

