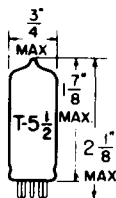


TUNG-SOL

HEPTODE

MINIATURE TYPE



GLASS BULB

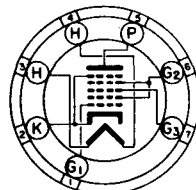
COATED UNIPOTENTIAL CATHODE

HEATER

4.2 VOLTS 0.45 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

MINIATURE BUTT
7 PIN BASE

7CH

THE 4CS6 IS A MINIATURE DUAL CONTROL PENTAGRID TUBE INTENDED FOR USE IN SYNC SEPARATOR CIRCUITS. IN THESE CIRCUITS IT PROVIDES IMPROVED NOISE IMMUNITY. BOTH CONTROL GRIDS HAVE SHARP CUT-OFF CHARACTERISTICS. 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.

GRID #1 TO PLATE: G_1 TO P (MAX.)	0.05	μf
GRID #3 TO PLATE: G_3 TO P (MAX)	0.36	μf
#1 INPUT: G_1 TO (H+K+ G_2 + $G_{3\&5}$)	5.5	μf
#3 INPUT: G_3 TO (H+K+ G_1 + $G_{2\&5}$)	7.0	μf
OUTPUT: P TO (H+K+ G_1 + G_2 + $G_{3\&5}$)	7.5	μf
COUPLING: G_1 TO G_3 (MAX.)	0.22	μf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

DESIGN CENTER VALUES

HEATER VOLTAGE	4.2	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE		
TOTAL DC AND PEAK	200	VOLTS
HEATER POSITIVE		
DC	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM GRID #2 & #4 VOLTAGE	100	VOLTS
MAXIMUM GRID #2 & #4 SUPPLY VOLTAGE	300	VOLTS
MAXIMUM PLATE DISSIPATION	1.0	WATT
MAXIMUM GRID #2 & #4 DISSIPATION	1.0	WATT
MAXIMUM CATHODE CURRENT	14	MA.
MAXIMUM GRID #1 CIRCUIT RESISTANCE	0.47	MEGOHM
MAXIMUM GRID #3 CIRCUIT RESISTANCE	2.2	MEGOHMS
HEATER WARM-UP TIME*	11.0	SECONDS

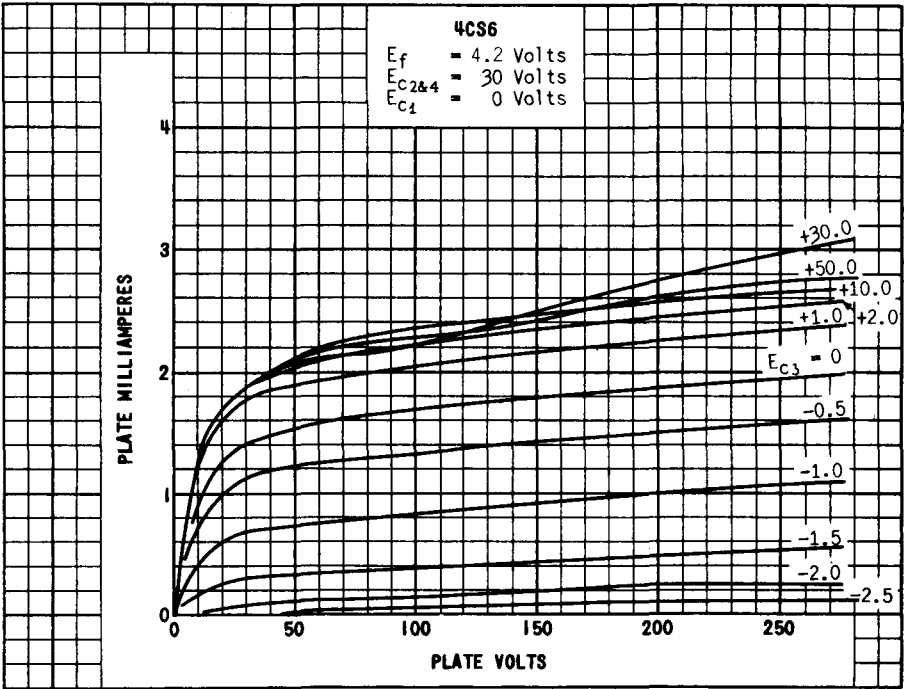
*HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

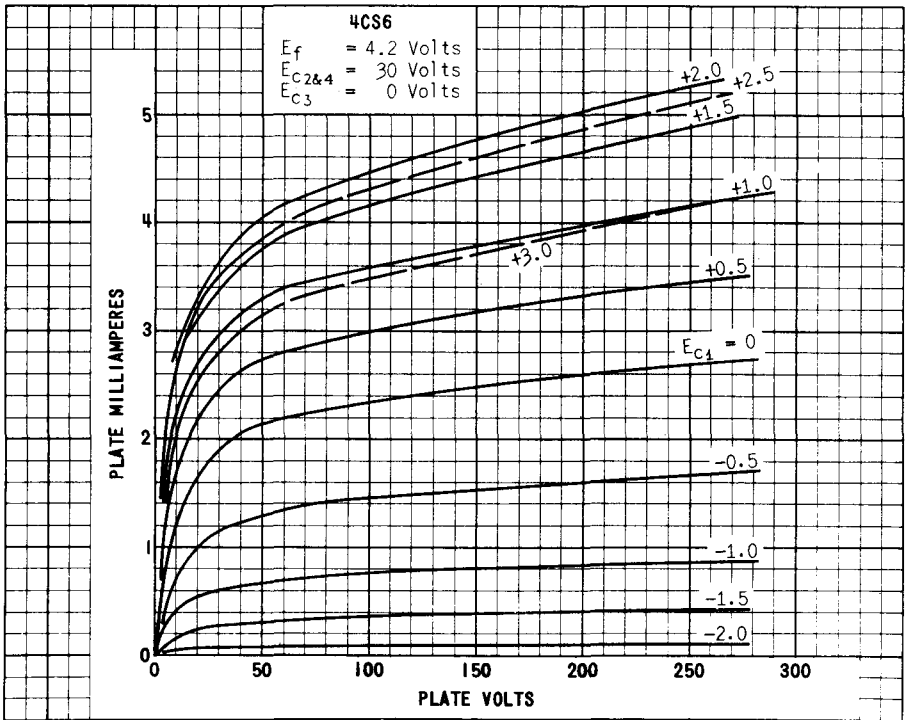
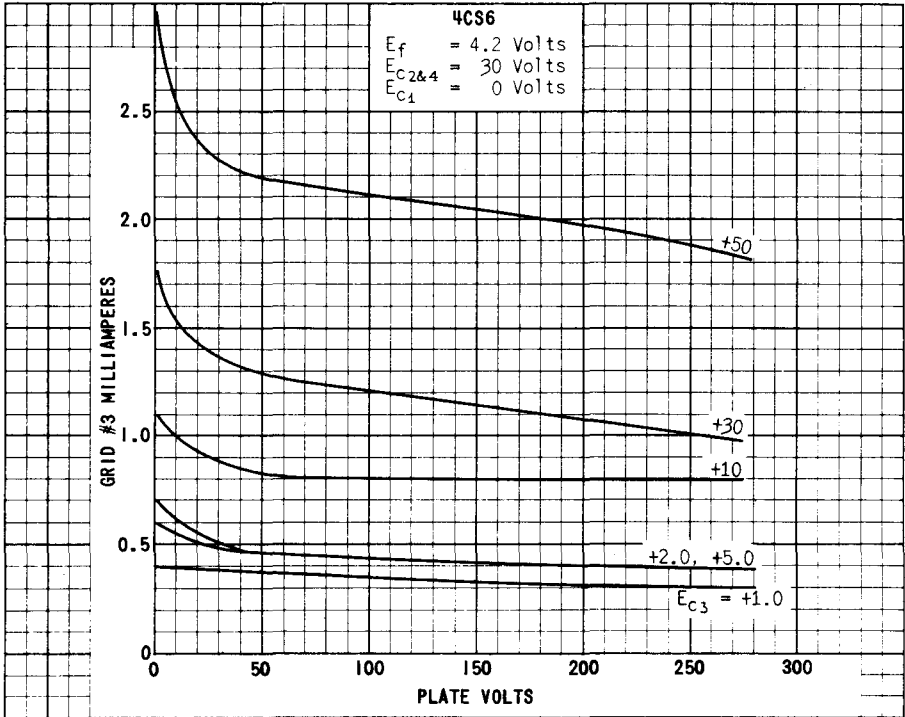
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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
CLASS A₁ AMPLIFIER

HEATER VOLTAGE	4.2	4.2	4.2	VOLTS
HEATER CURRENT	0.45	0.45	0.45	AMP.
PLATE VOLTAGE	10	100	100	VOLTS
GRID #2 & #4 VOLTAGE	30	30	30	VOLTS
GRID #1 VOLTAGE	0	0	-1	VOLTS
GRID #3 VOLTAGE	0	-1	0	VOLTS
PLATE CURRENT	2.0	0.8	1.0	MA.
GRID #2 & #4 CURRENT	4.5	5.5	1.3	MA.
TRANSCONDUCTANCE (MEASURED BETWEEN GRID #1 AND PLATE)	---	---	1 100	μMHOS
TRANSCONDUCTANCE (MEASURED BETWEEN GRID #3 AND PLATE)	---	500	---	μMHOS
PLATE RESISTANCE (APPROX.)	---	0.7	1.0	MEGOHM
GRID #1 VOLTAGE (APPROX.) FOR I _b =50 μA	---	---	-2.5	VOLTS
GRID #3 VOLTAGE (APPROX.) FOR I _b =50 μA	---	-2.2	---	VOLTS





4CS6

