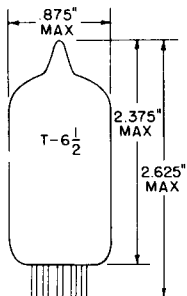


## TUNG-SOL



GLASS BULB  
SMALL-BUTTON MINIATURE  
7 PIN BASE E7-1  
OUTLINE DRAWING  
JEDEC 6-3

## BEAM PENTODE

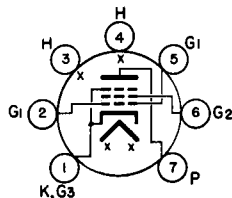
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER

12.6±1.3, VOLTS 600 MA.  
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 7CV

THE 12CU5 IS A MINIATURE BEAM POWER PENTODE INTENDED FOR USE IN THE AUDIO OUTPUT STAGE OF TELEVISION RECEIVERS. HIGH POWER SENSITIVITY AND HIGH EFFICIENCY AT LOW PLATE AND SCREEN VOLTAGES ENABLE THE 12CU5 TO PROVIDE RELATIVELY HIGH POWER OUTPUT. 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.**  
WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.6	pf
GRID #1 TO CATHODE & GRID #3, HEATER, AND GRID #2	13.0	pf
PLATE TO CATHODE & GRID #3, HEATER, AND GRID #2	8.5	pf

## RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

CLASS A<sub>1</sub> AMPLIFIER

MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE <sup>A</sup>	200	VOLTS
MAXIMUM PLATE VOLTAGE	150	VOLTS
MAXIMUM GRID #2 (SCREEN) VOLTAGE	150	VOLTS
MAXIMUM GRID #1 (CONTROL-GRID) VOLTAGE:		
POSITIVE BIAS VALUE	0	VOLTS
MAXIMUM PLATE DISSIPATION	7	WATTS
MAXIMUM GRID #2 INPUT	1.4	WATTS
MAXIMUM BULB TEMPERATURE		
{AT HOTTEST POINT ON BULB SURFACE}	220	°C
HEATER WARM-UP TIME {AVERAGE}*	11	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.

<sup>A</sup> AC COMPONENT MUST NOT EXCEED 100 VOLTS.

## TUNG-SOL

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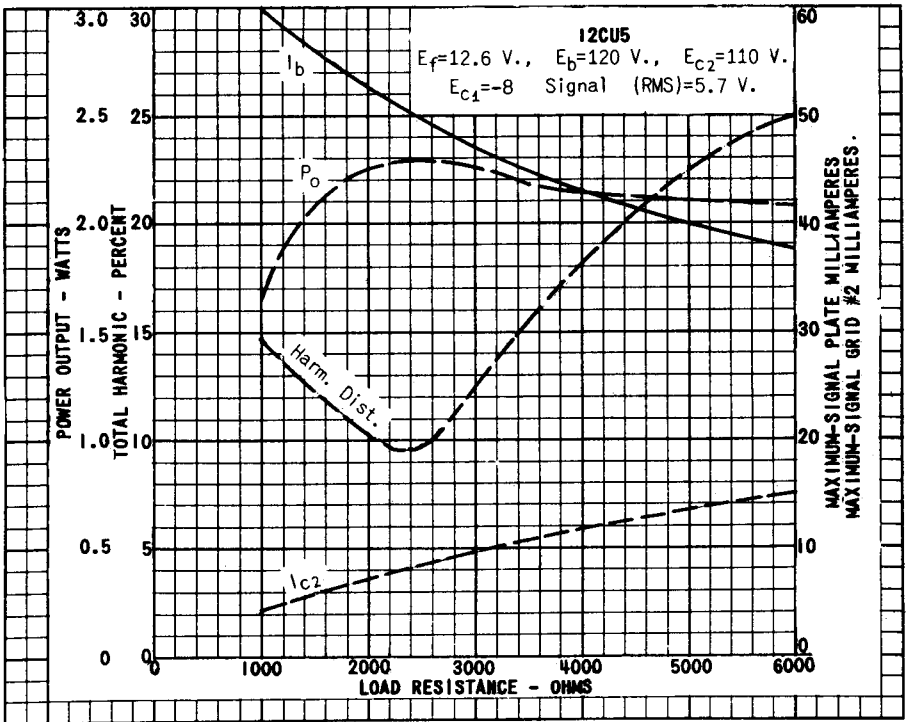
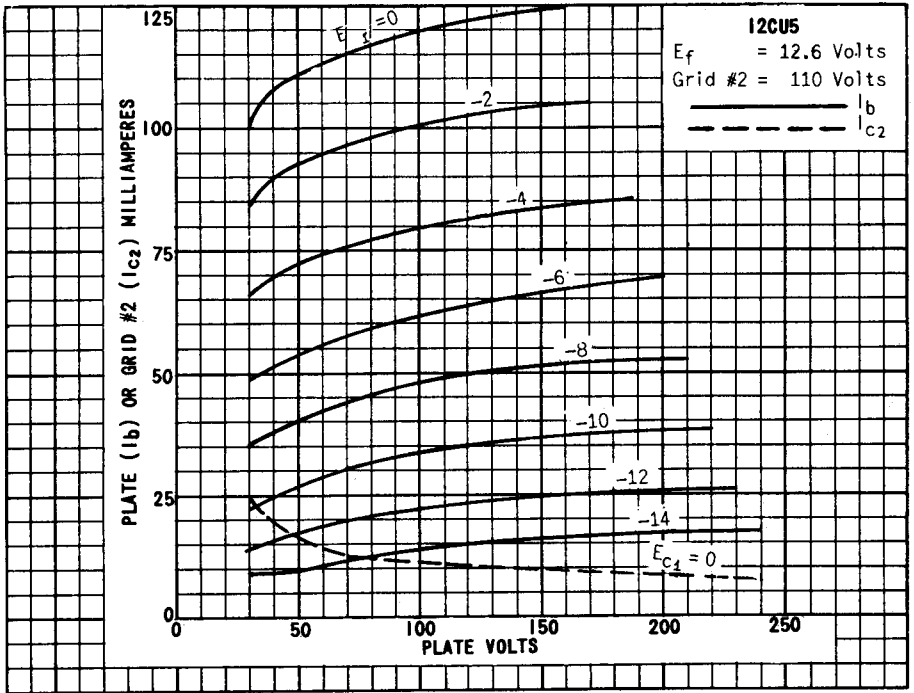
## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

PLATE VOLTAGE	120	VOLTS
GRID #2 VOLTAGE	110	VOLTS
GRID #1 VOLTAGE	-8	VOLTS
PEAK AF GRID #1 VOLTAGE	8	VOLTS
ZERO-SIGNAL PLATE CURRENT	49	MA.
MAXIMUM-SIGNAL PLATE CURRENT	50	MA.
ZERO-SIGNAL GRID #2 CURRENT	4	MA.
MAXIMUM-SIGNAL GRID #2 CURRENT	8.5	MA.
PLATE RESISTANCE (APPROX.)	10 000	OHMS
TRANSCONDUCTANCE	7 500	μMHOS
LOAD RESISTANCE	2 500	OHMS
TOTAL HARMONIC DISTORTION	10	PERCENT
SIGNAL POWER OUTPUT (MAX. )	2.3	WATTS

## MAXIMUM CIRCUIT VALUES

GRID #1 CIRCUIT RESISTANCE:		
FOR FIXED-BIAS OPERATION (MAX.)	0.1	MEGOHM
FOR CATHODE-BIAS OPERATION (MAX.)	0.5	MEGOHM



REPRODUCED BY U. S. A.