

AUDIO-OUTPUT BEAM-POWER AMPLIFIER TYPES 6CU5, 12C5, 12CU5, 17CU5, 25C5 and 50C5

The 6CU5, 12C5, 12CU5, 17CU5, 25C5 and 50C5 are 7-pin miniature beam-power pentode types designed for service as the audio output amplifier tube in amplitude-modulated, frequency-modulated and television receivers. These types are characterized by high power sensitivity and high plate efficiency at the comparatively low plate and grid 2 voltage normally available in power-transformerless receivers.

The 12C5, 12CU5 and 17CU5 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.

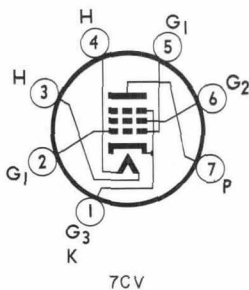
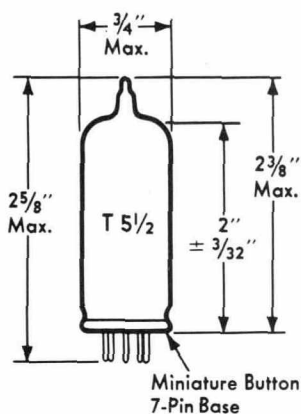
GENERAL DATA

ELECTRICAL:

Cathode	Coated Unipotential
Heater:	6CU5 12C5 17CU5 25C5 50C5
	12CU5
Voltage (ac or dc)	6.3 12.6 16.8 25.0 50.0 Volts
Current	1.2 0.60 0.45 0.30 0.15 Ampere
Warm-up Time (Approx.) [▲]	11 11 .. Seconds
Direct Interelectrode Capacitances (Unshielded):	
Grid 1 to Plate	0.6 $\mu\mu\text{f}$
Input	13 $\mu\mu\text{f}$
Output	8.5 $\mu\mu\text{f}$

MECHANICAL:

Bulb	T-5-1/2
Base	Miniature 7-Pin (JETEC E7-1)
Outline	5-3
Basing	7CV
Mounting Position	Any



AF POWER AMPLIFIER - CLASS A

MAXIMUM RATINGS:

Design-Center Values

Plate Voltage	135 max.	Volts
Grid 2 (Screen) Voltage	117 max.	Volts
Plate Dissipation	6.0 max.	Watts
Grid 2 Dissipation	1.25 max.	Watts
Heater-Cathode Voltage:		
Heater Negative with Respect to Cathode		
Total DC + Peak	200 max.	Volts
Heater Positive with Respect to Cathode		
DC Component	100 max.	Volts
DC + Peak	200 max.	Volts
Bulb Temperature at Hottest Point		
on Bulb Surface*	220 max.	°C
Grid 1 Circuit Resistance:		
Cathode Bias Operation	0.5 max.	Megohm
Fixed Bias Operation	0.1 max.	Megohm

TYPICAL OPERATION AND CHARACTERISTICS:

Plate Voltage	120	Volts
Grid 2 Voltage	110	Volts
Grid 1 (Control Grid) Voltage	-8.0	Volts
Peak AF Grid 1 Voltage	8.0	Volts
Plate Resistance (Approx.)	10000	Ohms
Transconductance	7500	umhos
Zero Signal Plate Current	49	Ma.
Max. Signal Plate Current	50	Ma.
Zero Signal Grid 2 Current	4	Ma.
Max. Signal Grid 2 Current	8.5	Ma.
Load Resistance	2500	Ohms
Total Harmonic Distortion	10	Per Cent
Max. Signal Power Output	2.3	Watts

* High ambient temperature and shielding may necessitate a reduction in operating dissipation. When tube shields are used it is advisable to paint both inside and outside surfaces of the tube shield a dull black and to provide ventilation slots to reduce operating temperature.

▲ 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 four 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.

◆ $\pm 6\%$

