

POWER PENTODE TYPE 12FX5 AND 60FX5

The 12FX5 and 60FX5 are 7-pin miniature power pentode types designed for service as the audio output tube. The out-standing feature of these types is high power sensitivity. Very low drive voltage is required.

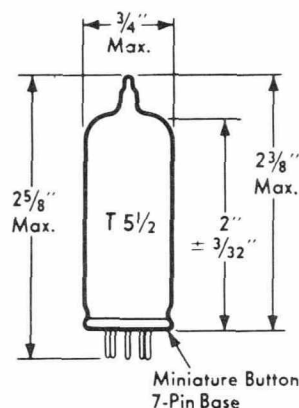
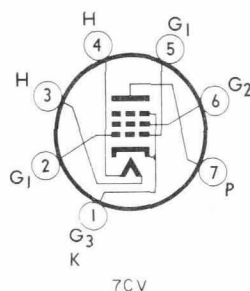
The 12FX5 has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a current rating of 450 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL

Cathode.....	Coated Unipotential		
Heater:	12FX5	60FX5	
Voltage (ac or dc)	12.6	60 ± 10%	Volts
Current	0.45 ± 6%	0.10	Ampere
Warm Up Time (Note 1)	11	—	Seconds
Direct Interelectrode Capacitances (Unshielded):			
Grid 1 to Plate	0.65	μμf	
Input	17	μμf	
Output	9	μμf	

MECHANICAL:

Bulb	T-5½
Base	7-Pin Miniature (JEDEC E7-1)
Outline	5-3
Basing	7CV
Mounting Position	Any



MAXIMUM RATINGS:

Design Maximum Values

Plate Voltage	150	max.	Volts
Grid 2 Voltage (Screen)	130	max.	Volts
Grid 1 Positive Voltage	0	max.	Volts
Plate Dissipation	5.5	max.	Watts
Grid 2 Dissipation	2	max.	Watts
Bulb Temperature (Note 2)	225	max.	°C
Grid 1 Circuit Resistance:			
Fixed Bias	0.1	max.	Megohms
Cathode-Resistor Bias	0.5	max.	Megohms
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
Total DC + Peak	200	max.	Volts

TYPICAL OPERATING CHARACTERISTICS:

Plate Voltage	110	Volts
Grid 2 Voltage	115	Volts
Cathode Bias Resistor	62	Ohms
Peak AF-Signal Grid 1 Voltage	3	Volts
Zero-Signal Plate Current	36	Ma.
Max.-Signal Plate Current	35	Ma.
Zero-Signal Grid 2 Current (Screen)	10	Ma.
Max.-Signal Grid 2 Current (Screen)	12	Ma.
Plate Resistance (Approx.)	17500	Ohms
Transconductance	13500	μmhos
Load Resistance	3000	Ohms
Power Output	1.3	Watts
Total Harmonic Distortion	8	Per Cent

NOTES

1. 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 3 times rated heater voltage divided by rated heater current.
2. 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.

