BEAM-POWER PENTODE TYPES 6DT5 AND 12DT5

The 6DT5 and 12DT5 are 9-pin miniature beam-power pentodes designed for service as vertical deflection output amplifiers in television receiver chassis featuring a 110° diagonal deflection angle picture tube and a B+ supply voltage of 250 volts. These types are characterized by high zero-bias plate current and a high plate current to grid 2 current ratio.

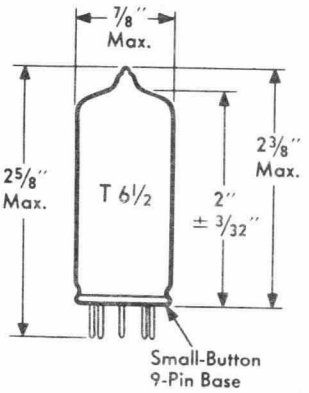
The 12DT5 has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a heater current rating of 600 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

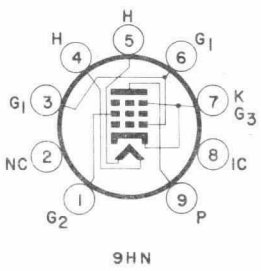
GENERAL DATA

ELECTRICAL:			
Cathode		Coated Unipotential	
Heater:	6DT5	12DT5	
Voltage	6.3	12.6 (ac or dc)	Volts
Current	1.2	0.60 ± 6%	Ampere
Warm-up Time▲		11	Seconds
Direct Interelectrode Capacitances: (Unshielded)			
Grid 1 to Plate		0.57	uuf
Input		12.5	uuf
Output		4.9	uuf
MECHANICAL:			
Bulb		T-6-1/2	
Base		Miniature 9-Pin (JETEC E9-1)	
Outline		6-3	
Basing		9HN	
Mounting Position		Any	

CHARACTERISTICS

Plate Voltage	60	80	250	Volts
Grid 2 (Screen) Voltage	150	250	250	Volts
Grid 1 Voltage	0□	0□	-16.5	Volts
Transconductance	--	--	6200	umhos
Plate Current	95	195	44	Ma.
Grid 2 Current	8.5	19	1.5	Ma.
Grid 1 Cutoff Voltage■	--	--	-35	Volts





9HN

VERTICAL DEFLECTION SERVICE♦

DEFLECTING 110° PICTURE TUBE

MAXIMUM RATINGS:			
Design Maximum Values (Except as Noted)			
Plate Voltage	315	max.	Volts
Peak Positive Pulse Plate Voltage	2200 *abs*	max.	Volts
Grid 2 Voltage	285	max.	Volts
Peak Negative Pulse Grid 1 Voltage	-250	max.	Volts
Plate Dissipation§	9.0	max.	Watts
Grid 2 Dissipation	2.0	max.	Watts
Cathode Current:			
Average	55	max.	Ma.
Peak	190	max.	Ma.
Heater - Cathode Voltage:			
Heater Positive with Respect to Cathode			
DC Component	100	max.	Volts
Total DC and Peak	200	max.	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	max.	Volts
Grid 1 Circuit Values			
Fixed Bias	0.5	max.	Megohm
Cathode Bias	1.0	max.	Megohm

▲ 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.

■ For plate current of 100 uamperes.

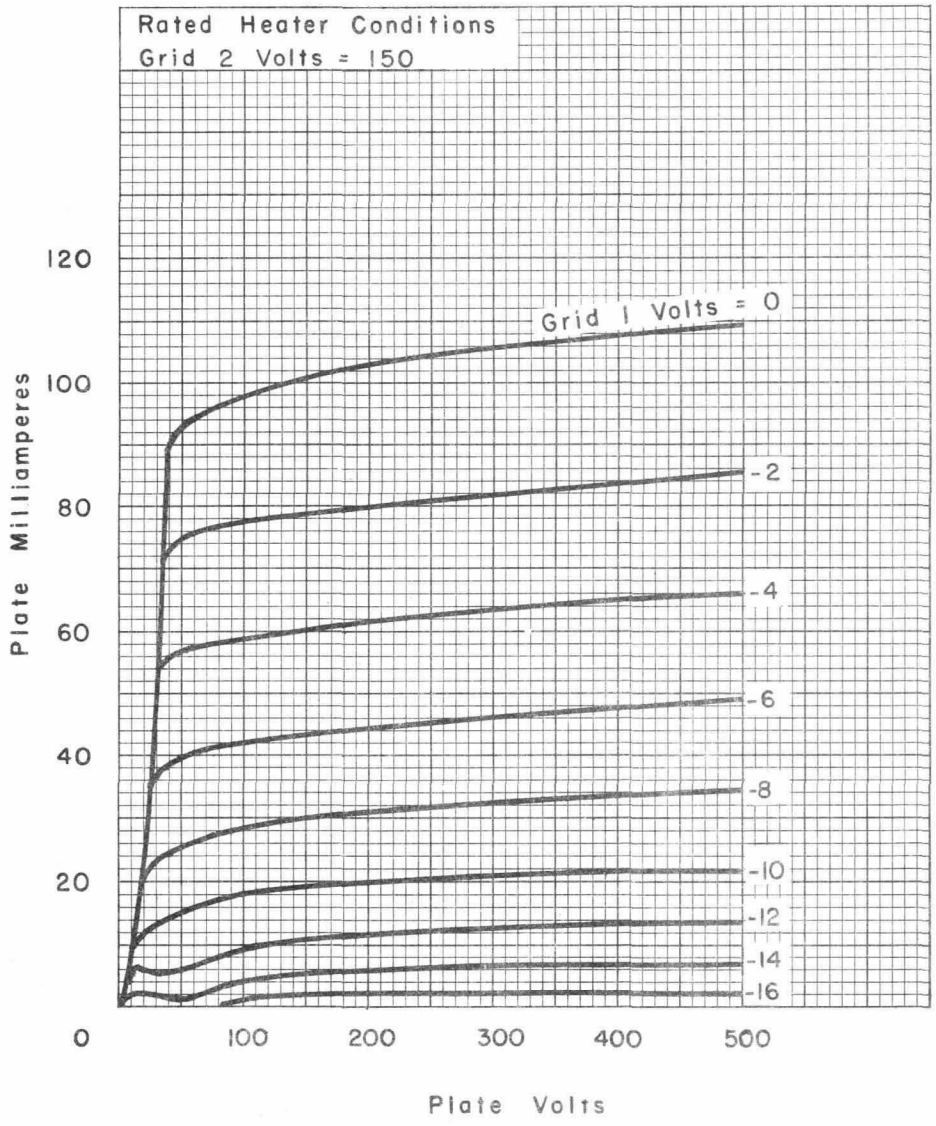
□ Applied for short interval (maximum of 2 seconds) so as not to damage tube.

⊕ These values can be measured by a method involving a re-current waveform such that the plate and grid 2 dissipation will be kept within ratings to prevent damage to the tube.

♦ For operation in a 525-line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations: Federal Communications Commission" the duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.

§ Stages operating with grid leak bias must use an adequate cathode bias resistor or similar arrangement to protect the tube in the absence of excitation.

AVERAGE PLATE CHARACTERISTICS



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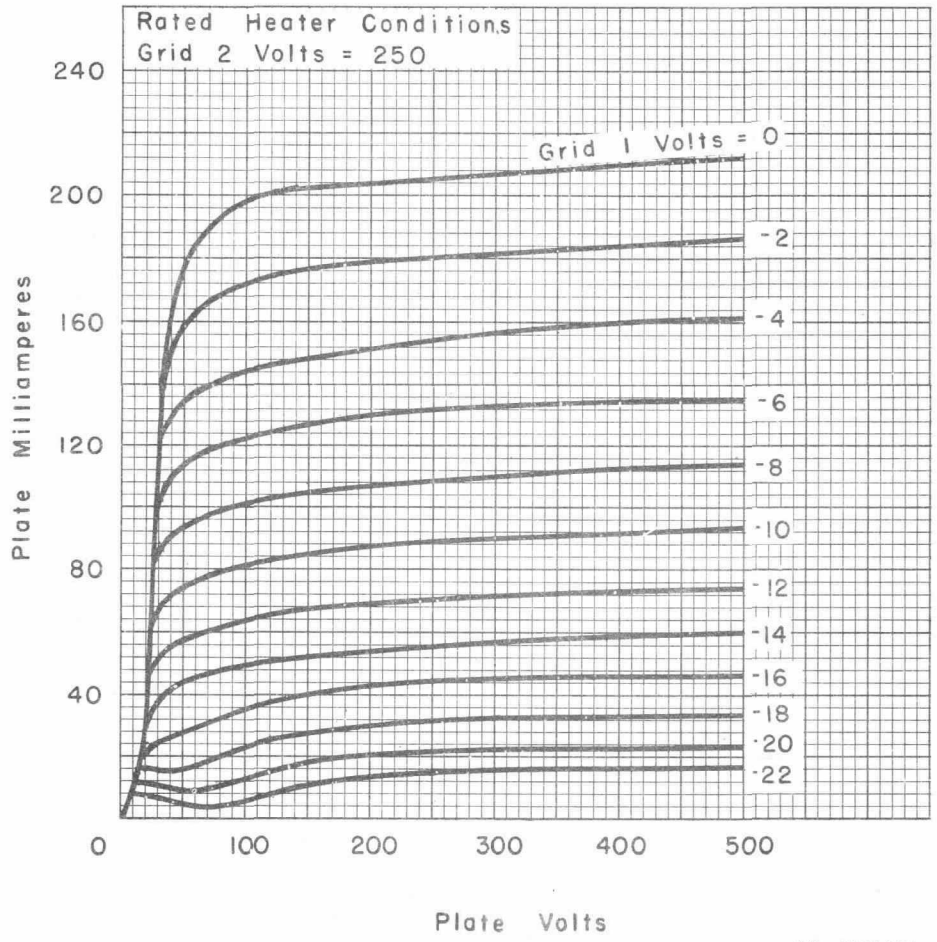
AVERAGE PLATE CHARACTERISTICS



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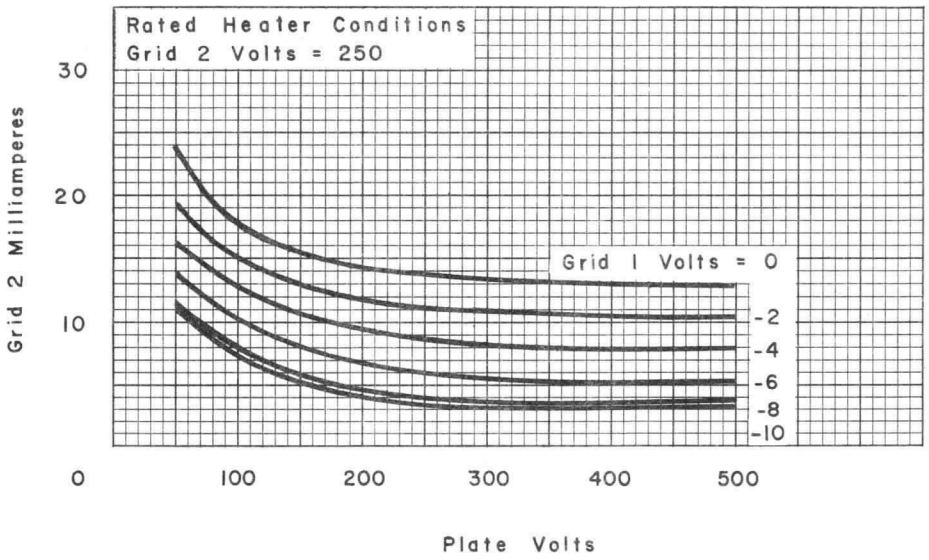
AVERAGE GRID 2 CHARACTERISTICS



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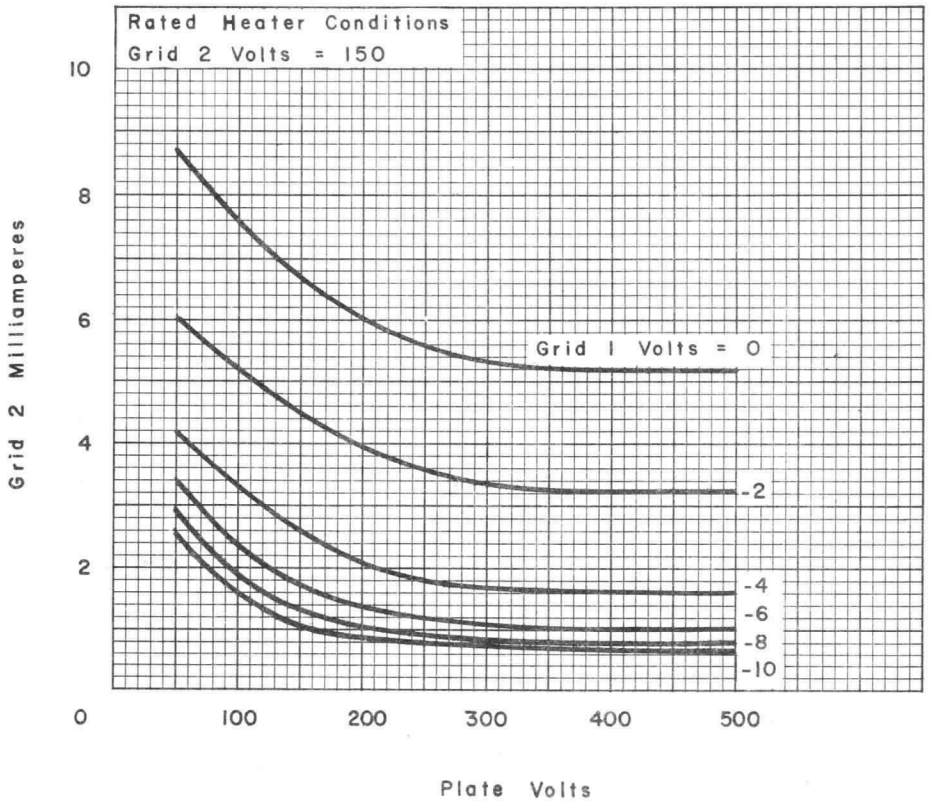
AVERAGE GRID 2 CHARACTERISTICS



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