

January 27, 1958

BEAM POWER PENTODE TYPES 6BQ6-GTA AND 12BQ6-GTA

The 6BQ6-GTA and 12BQ6-GTA are glass octal beam-power pentodes designed for service as horizontal deflection output amplifiers in television receivers. The 6BQ6-GTA and 12BQ6-GTA are improved versions of the 6BQ6-GT and 12BQ6-GT respectively.

The 12BQ6-GTA 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		
Filament:	6BQ6-GTA	12BQ6-GTA	
Voltage (ac or dc)	6.3	12.6	Volts
Current	1.2	0.6 ± 6%	Ampere
Warm-up Time +	..	11	Seconds
Direct Interelectrode Capacitances (Unshielded):			
Grid to Plate	6		uuf
Input	15.0		uuf
Output	7.5		uuf

MECHANICAL:

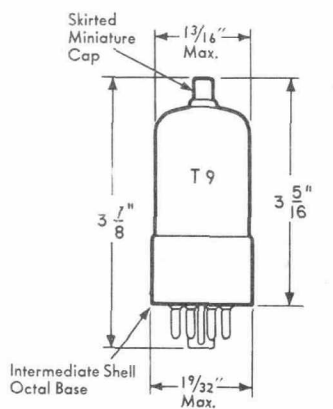
Bulb		T-9
Base	Intermediate Shell	Octal
Basing		6AM
Top Cap	C1-3, Skirted Miniature	
Mounting Position		Any

HORIZONTAL DEFLECTION AMPLIFIER

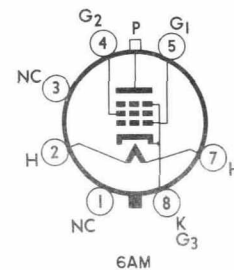
MAXIMUM RATINGS:

Design Center Values

D.C. Plate Supply Voltage: (Boost + D.C. Power Supply)	600	max.	Volts
Peak Positive Plate Voltage	6000 abs.	max.	Volts
Peak Negative Plate Voltage	1250	max.	Volts
Plate Dissipation	11	max.	Watts
Peak Negative Grid 1 Voltage	300	max.	Volts
D.C. Grid 2 Voltage	175	max.	Volts
Grid 2 Dissipation	2.5	max.	Watts
Average Cathode Current	110	max.	Ma.
Peak Cathode Current	400	max.	Ma.
Grid 1 Circuit Resistance	0.47	max.	Megohm
Bulb Temperature (At Hottest Point)	220	max.	°C
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



CE-A566



AVERAGE CHARACTERISTICS

NOTES

PENTODE OPERATION

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Grid 1 Voltage	-22.5	Volts
Plate Current	55	Ma.
Grid 2 Current	2.1	Ma.
Transconductance	5500	umhos
Plate Resistance	20000	Ohms

ZERO BIAS

Plate Voltage□	60	Volts
Grid 2 Voltage□	150	Volts
Plate Current⊕	225	Ma.
Grid 2 Current⊕	25	Ma.

CUTOFF

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Plate Current	1.0	Ma.
Grid 1 Voltage	-46	Volts

TRIODE AMPLIFICATION FACTOR

Plate Voltage	150	Volts
Grid 2 Voltage	150	Volts
Grid 1 Voltage	-22.5	Volts
Amplification Factor	4.3	

• For operation in a 525-line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission". The duty cycle of the voltage pulse not to exceed 15% of the scanning cycle.

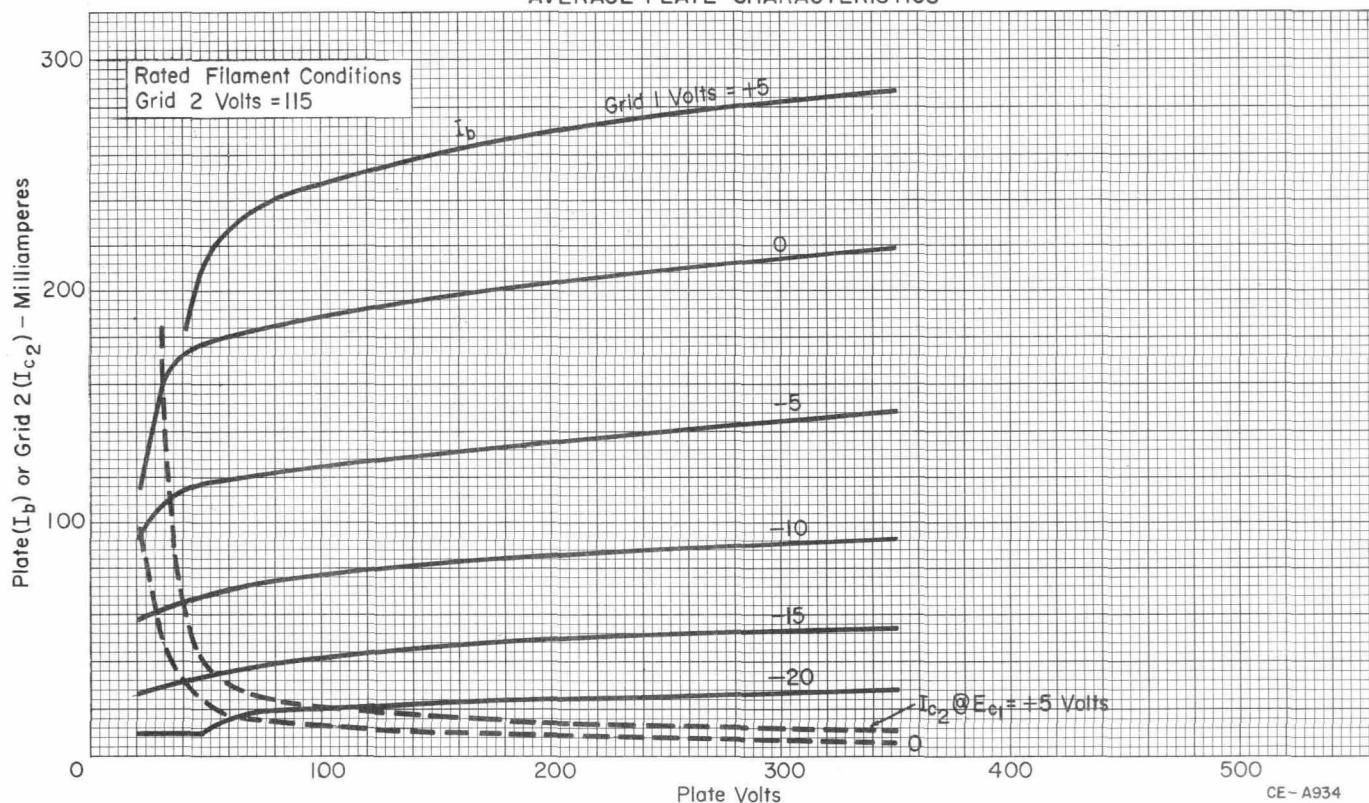
▲ In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.

+ 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.

□ Applied for short interval (maximum of two 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.

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

