

HORIZONTAL AMPLIFIER BEAM PENTODE TYPE 6BQ6-GTB

The 6BQ6-GTB is an octal based beam-power pentode designed for service as the output amplifier in horizontal deflection circuit in a television receiver. This type is characterized by high zero-bias plate current and high maximum peak positive pulse plate voltage ratings.

ELECTRICAL:

Cathode	Coated Unipotential
Filament:	
Voltage (ac or dc)	6.3 Volts
Current	1.20 Ampere
Direct Interelectrode Capacitances (Unshielded):	
Grid to Plate	0.6 $\mu\mu\text{f}$
Input	15.0 $\mu\mu\text{f}$
Output	7.0 $\mu\mu\text{f}$

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 Δ	11	max.	Watts
Peak Negative Grid 1 Voltage	300	max.	Volts
D.C. Grid 2 Voltage	200	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.	$^{\circ}\text{C}$

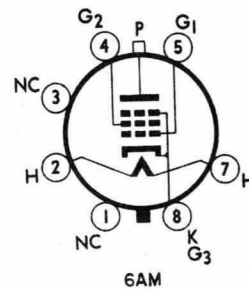
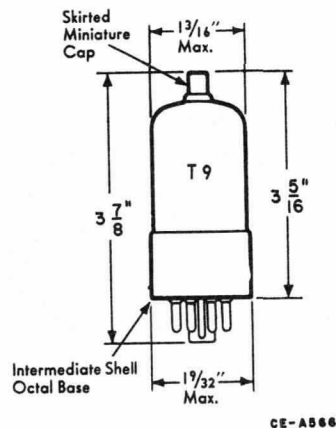
Heater-Cathode Voltage:

Heater Negative with Respect to Cathode

Total DC + Peak	200	max.	Volts
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Heater Positive with Respect to Cathode

DC Component	100	max.	Volts
Total DC + Peak	200	max.	Volts



AVERAGE CHARACTERISTICS

PENTODE OPERATION:

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Grid 1 Voltage	-22.5	Volts
Plate Current	57	Ma.
Grid 2 Current	2.1	Ma.
Transconductance	5900	μ mhos
Plate Resistance	14500	Ohms

ZERO BIAS:

Plate Voltage $\square$	60	Volts
Grid 2 Voltage $\square$	150	Volts
Plate Current $\oplus$	260	Ma.
Grid 2 Current $\oplus$	26	Ma.

CUTOFF:

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Plate Current	1.0	Ma.
Grid 1 Voltage	-43	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.

$\square$ Applied for short interval (maximum of two seconds) so as not to damage tube.

$\oplus$ 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

