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6GF5

BEAM PENTODE

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

The 6GF5 is a COMPACTRON* beam-power pentode primarily designed for use as the horizontal-deflection amplifier in television receivers.

GENERAL

Electrical

Cathode - Coated Unipotential

Heater Characteristics and Ratings		
Heater Voltage, AC or DC+	6.3±0.6	Volts
Heater Current‡	1.2	Amperes
Direct Interelectrode Capacitances§		
Grid-Number 1 to Plate: (g1 to p)	0.2	pf
Input: g1 to (h + k + g2 + b.p.)	16	pf
Output: p to (h + k + g2 + b.p.)	7.5	pf

Mechanical

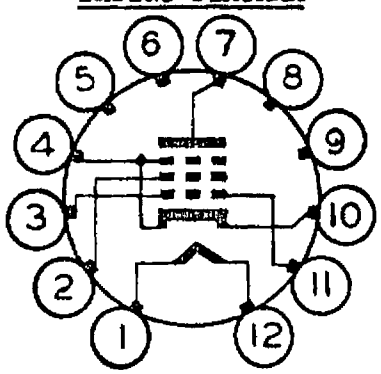
Mounting Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-60

Maximum Diameter	1.188	Inches
Maximum Over-all Length	2.875	Inches
Maximum Seated Height	2.500	Inches

TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - Grid Number 2 (Screen)
Pin 3 - Grid Number 1
Pin 4 - Cathode and Beam Plates
Pin 5 - Internal Connection - Do Not Use
Pin 6 - Internal Connection - Do Not Use
Pin 7 - Plate
Pin 8 - Internal Connection - Do Not Use
Pin 9 - Internal Connection - Do Not Use
Pin 10 - Cathode and Beam Plates
Pin 11 - Grid Number 1
Pin 12 - Heater

BASING DIAGRAM



EIA 12BJ

MAXIMUM RATINGS

Horizontal-Deflection Amplifier Service - Design-Maximum Values¶

DC Plate-Supply Voltage (Boost + DC Power Supply)	770	Volts
Peak Positive Pulse Plate Voltage	5000	Volts
Peak Negative Pulse Plate Voltage	1500	Volts
Screen Voltage	220	Volts
Negative DC Grid-Number 1 Voltage	55	Volts
Peak Negative Grid-Number 1 Voltage	330	Volts
Plate Dissipation#	9.0	Watts
Screen Dissipation	2.5	Watts
DC Cathode Current	160	Milliamperes
Peak Cathode Current	500	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance	1.0	Megohms
Bulb Temperature at Hottest Point	200	C

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

Average Characteristics

Plate Voltage	60	250	Volts
Screen Voltage	150	150	Volts
Grid-Number 1 Voltage	0Δ	-26.5	Volts
Plate Resistance, approximate	---	260000	Ohms
Transconductance	---	4700	Micromhos
Plate Current	345	34	Milliamperes
Screen Current	33	1.6	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 1.0 Milliamperes	---	-46	Volts
Triode Amplification Factor**	---	4.2	

* T. M. of General Electric Company.

\+ The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.

¶ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one 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.

Δ Applied for short interval (two seconds maximum) so as not to damage tube.

** Triode connection (screen tied to plate) with Eb = Ec2 = 150 volts and Ec1 = -26.5 volts.