



TUBES

Compactron Beam Pentode

6JS6C

**FOR TV HORIZONTAL-DEFLECTION
AMPLIFIER APPLICATIONS**

COLOR TV TYPE

30 WATT PLATE DISSIPATION

T-12 ENVELOPE

12 PIN BASE

The 6JS6C is a compactron beam power pentode designed for use as a horizontal deflection amplifier in color television sets.

GENERAL

ELECTRICAL

Cathode – Coated Unipotential

HEATER CHARACTERISTICS AND RATINGS

Heater Circuit	Parallel
Heater Voltage •	6.3±0.6 Volts
Heater Current ▲	2.25 Amperes
Maximum Heater Cathode Voltage	
Heater Negative with Respect to Cathode	
Total DC and Peak	200 Volts
Heater Positive with Respect to Cathode	
DC	100 Volts
Total DC and Peak	200 Volts

Direct Interelectrode Capacitances, approximate

Grid–Number 1 to Plate (g1 to p)	0.7 pf
Input g1 to (h+k+g2+g3)	24 pf
Output p to (h+k+g2+g3)	10 pf

Bulb Temperature (At hottest point) 225⁰C Max.

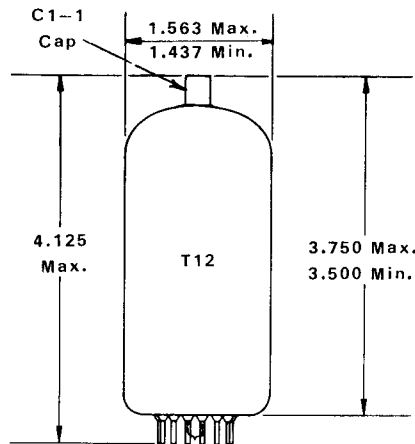
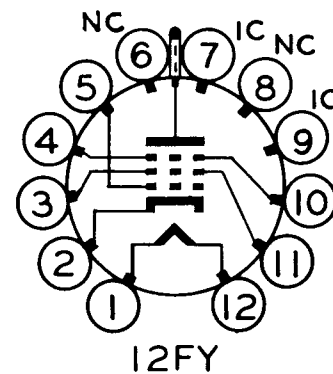
MECHANICAL

Operating Position – Any
 Envelope – T-12
 Base – E12-74, Button 12-Pin
 Top Cap – C1-1, Small
 Outline Drawing – EIA 12-89
 Maximum Diameter 1.563 Inches
 Maximum Seated Height 3.750 Inches
 Maximum Overall Length 4.125 Inches

TERMINAL CONNECTIONS

- Pin No. 1 – Heater
- Pin No. 2 – Cathode
- Pin No. 3 – Grid No. 2
- Pin No. 4 – Beam Plates
- Pin No. 5 – Grid No. 1
- Pin No. 6 – No. Connection
- Pin No. 7 – Internal Connection
(Do Not Use)
- Pin No. 8 – No Connection
- Pin No. 9 – Internal Connection
(Do Not Use)
- Pin No. 10 – Beam Plates
- Pin No. 11 – Grid No. 2
- Pin No. 12 – Heater
- Top Cap – Plate

BASING DIAGRAM



BASE E12 - 74

6JS6C

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DESIGN-MAXIMUM VALUES UNLESS OTHERWISE INDICATED

DC Plate Supply Voltage (Boost + DC Power Supply)	990	Volts	Max.
Peak Positive Plate Pulse Voltage (Absolute Maximum)	7500	Volts	Max.
Peak Negative Plate Pulse Voltage	1200	Volts	Max.
Positive Grid No. 3 Voltage	75	Volts	Max.
Grid No. 2 DC Voltage	220	Volts	Max.
Peak Negative Grid No. 1 Voltage	330	Volts	Max.
Plate Dissipation ♦ ⊕	30	Watts	Max
Grid No. 2 Dissipation ⊕	5.5	Watts	Max.
Average Cathode Current	350	Milliamperes	Max.
Peak Cathode Current	1200	Milliamperes	Max.
Grid No. 1 Circuit Resistance			
with Grid Bias Feedback HV Regulation	0.47	Megohms	Max.
with DC or Pulse Shunt HV Regulation	10	Megohms	Max.

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.

AVERAGE CHARACTERISTICS

Plate Voltage	175	60	Volts
Grid No. 2 Voltage	125	125	Volts
Grid No. 1 Voltage	-25	0	Volts
Grid No. 3 Voltage	§	§	Volts
Plate Current	130	600 *	Milliamperes
Grid No. 2 Current	2.8	32 *	Milliamperes
Transconductance	11500		μ umhos
Triode Amplification Factor (Grid No. 2 Connected to Plate)			
(Eb = Ec2 = 125 Volts ; Ec1 = -25 Volts)	3.0		
Plate Resistance (Approximate)	5500		Ohms
Grid No. 1 Voltage for Ib = 1 Ma (Approximate)	-54		Volts
Ratio (Plate Current / Grid No. 2 Current)		18.5 : 1	

HIGH VOLTAGE CUTOFF CHARACTERISTICS

Peak Positive Plate Pulse Voltage	5000	5000	5500	6000	Volts
Grid No. 2 Voltage	125	125	125	125	Volts
Grid No. 3 Voltage	0	0	0	0	Volt
Grid No. 1 Voltage (Approximate) Ib = 75 μ a		-145	-155	-165	Volts
Grid No. 1 Voltage (Approximate) Ib = 1 Ma	-125				Volts

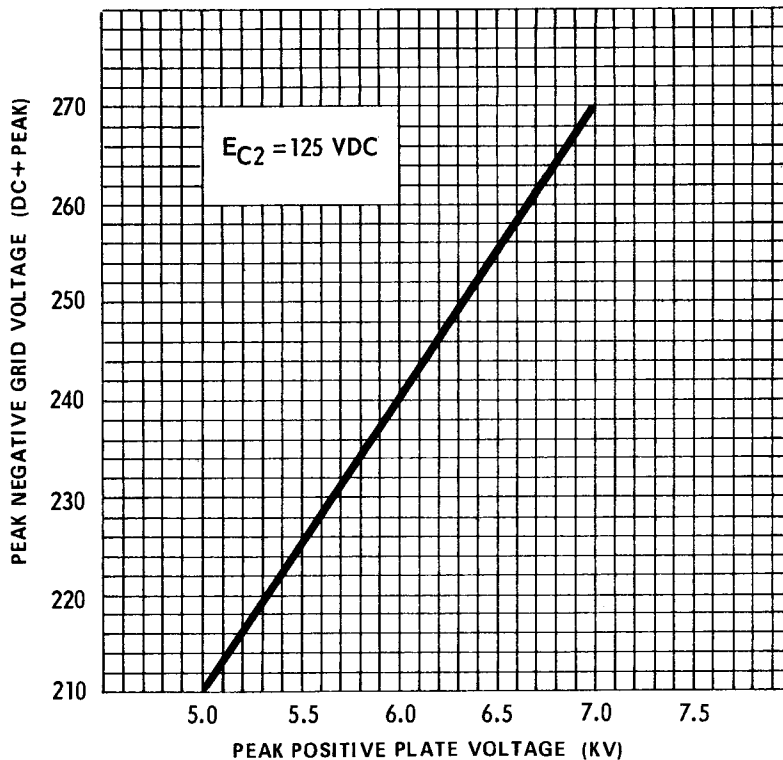
MINIMUM RECOMMENDED GRID DRIVE

Peak Positive Plate Pulse Voltage	5000	5500	6000	Volts
Peak Negative Grid No. 1 Voltage	210	225	240	Volts

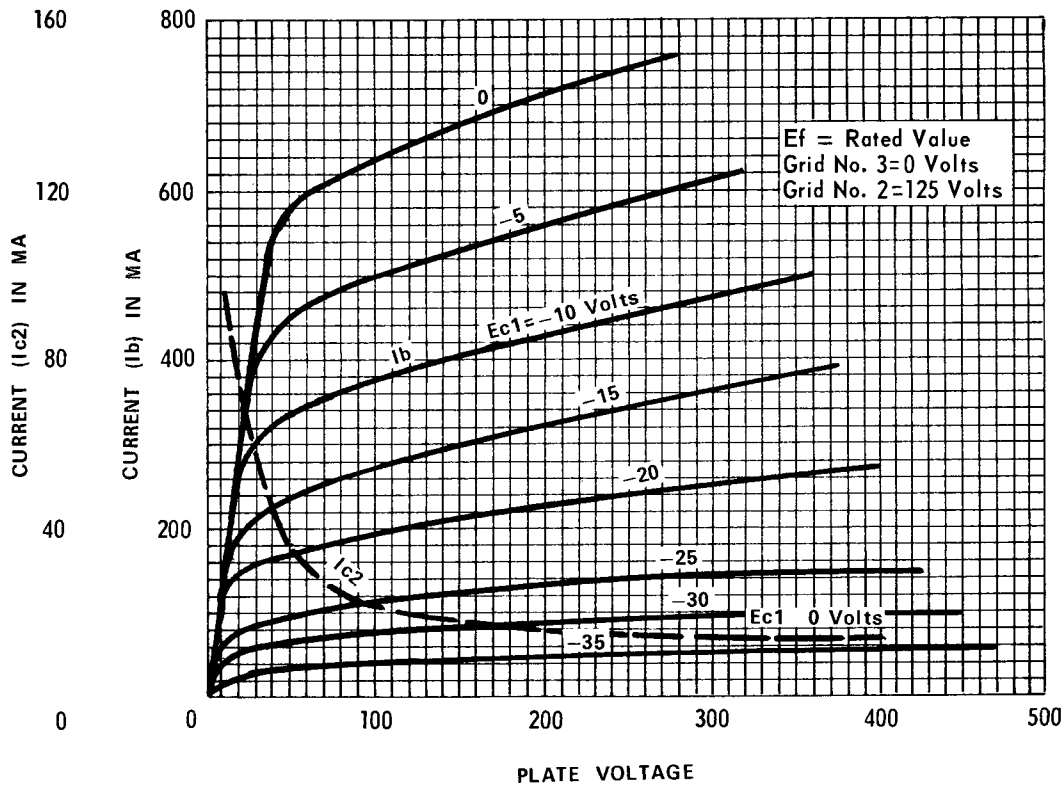
SPECIAL TESTS AND RATINGS

Primary Beam - Plate Emission #				
Initial Maximum			100	μ a
After 100 Hrs. of Operation within Ratings (Maximum)			100	μ a

CHART OF RECOMMENDED MINIMUM PEAK NEGATIVE GRID VOLTAGE
VS PEAK POSITIVE PLATE PULSE VOLTAGE



AVERAGE PLATE CHARACTERISTICS



NOTES

- 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 $E_f = 6.3$ volts.
 - ◆ In stages operating with a grid leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.
 - ★ Values measured by a method involving a recurrent wave form such that the plate and screen dissipations will be kept within ratings in order to prevent damage to the tube.
- § Grid No. 3 (Beam Plate) returned to cathode. (At Socket)
- ⊕ Preferred Operation Dissipation Values: (Watts-Max.)
- | <u>Pp</u> | <u>Pg2</u> |
|-----------|------------|
| 30 | 4.0 |
| 28 | 4.5 |
| 26 | 5.0 |
| 24 | 5.5 |
- # Primary beam plate (Grid No. 3) emission is measured by operating the tube at a plate dissipation of 40 watts for not more than 5 minutes with the beam plate returned to ground through a current meter.

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