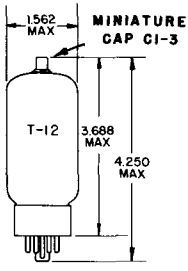
TUNG-SOL

BEAM PENTODE



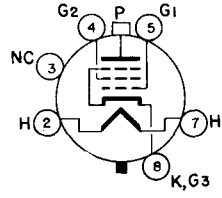
GLASS BULB

SHORT MEDIUM SHELL
5 OR 6 PIN OCTAL WITH
EXTERNAL BARRIERS
STYLE B: B6-122 OR B5-190

FOR
HORIZONTAL-DEFLECTION-AMPLIFIER
CIRCUITS IN TELEVISION RECEIVERS

ANY MOUNTING POSITION

PIN #3 IS OMITTED WHEN B5-190 BASE IS USED



BOTTOM VIEW
BASING DIAGRAM
JEDEC 6AM

THE 12GW6 IS A BEAM POWER PENTODE EMPLOYING A T-12 ENVELOPE. IT IS DESIGNED ESPECIALLY FOR USE IN HORIZONTAL-DEFLECTION-AMPLIFIER CIRCUITS OF TELEVISION RECEIVERS WHICH OPERATE WITH LOW PLATE SUPPLY VOLTAGES.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.5	pf
GRID #1 TO CATHODE, GRID #3, GRID #2 & HEATER	17	pf
PLATE TO CATHODE, GRID #3, GRID #2 & HEATER	7	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	12.6	VOLTS	600	MA.
HEATER WARM-UP TIME*			11	SECONDS
HEATER SUPPLY LIMITS:				
CURRENT OPERATION			600 ± 40	MA.
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:				
HEATER NEGATIVE WITH RESPECT TO CATHODE			200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			200 A	VOLTS

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

HORIZONTAL-DEFLECTION AMPLIFIER

DC PLATE-SUPPLY VOLTAGE (BOOST + DC POWER SUPPLY)	770	VOLTS
PEAK POSITIVE-PULSE PLATE VOLTAGE B	6500	VOLTS
PEAK NEGATIVE-PULSE PLATE VOLTAGE	1500	VOLTS
DC GRID #2 VOLTAGE	220	VOLTS
DC GRID #1 VOLTAGE	-55	VOLTS

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS-CONT'D.

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

PEAK NEGATIVE-PULSE GRID #1 VOLTAGE	330	VOLTS
CATHODE CURRENT:		
PEAK	550	MA.
AVERAGE	175	MA.
PLATE DISSIPATION[C]	17.5	WATTS
GRID #2 INPUT	3.5	WATTS
BULB TEMPERATURE (AT HOTTEST POINT ON BULB SURFACE)	240	°C

MAXIMUM CIRCUIT VALUES:

GRID #1 CIRCUIT RESISTANCE[C]	1.0	MEGOHM

CHARACTERISTICS

CLASS A_1 AMPLIFIER

PLATE VOLTAGE	60	250	VOLTS
GRID #2 VOLTAGE	150	150	VOLTS
GRID #1 VOLTAGE	0	-22.5	VOLTS
MU-FACTOR, GRID #2 TO GRID #1 WITH PLATE CONNECTED TO GRID #2, PLATE VOLTS = GRID #2 VOLTS =150, AND GRID #1 VOLTS =-22.5	---	4.4	
PLATE RESISTANCE (APPROX.)	---	15000	OHMS
TRANSCONDUCTANCE	---	7100	µMHOS
PLATE CURRENT	→390[D]	70	MA.
GRID #2 CURRENT	32[D]	2.1	MA.
GRID #1 VOLTAGE (APPROX.) FOR PLATE CURRENT OF 1 MA.		42	VOLTS

*HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

A THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

B 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 POLSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

15% OF ONE HORIZONTAL SCANNING CYCLE IS 10 MICROSECONDS.

C IN STAGES OPERATING WITH GRID-RESISTOR BIAS, AN ADEQUATE CATHODE-BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

D THESE VALUES CAN BE MEASURED BY A METHOD INVOLVING A RECURRENT WAVE FORM SUCH THAT THE CATHODE CURRENT WILL BE KEPT WITHIN RATINGS IN ORDER TO PREVENT DAMAGE TO THE TUBE.

→ INDICATES A CHANGE.