

- * A dc supply voltage of 115 volts minimum should be provided to insure "starting" throughout tube life.
- DC operating current = 2.5 mA.
- After initial 3-minute warm-up period.
- † Defined as the maximum instantaneous voltage fluctuation at any current level within the operating current range.
- ‡ A series resistor must always be used with the 5651A. The resistance value must be chosen so that (1) the maximum current rating of 3.5 mA is not exceeded at the highest anode-supply voltage employed, and (2) the minimum current rating of 1.5 mA is always exceeded when the anode-supply voltage is at its lowest value.

Installation and Application

Make no connection to pins 3 and 6. Any potentials applied to these pins may cause erratic tube performance. The three pin terminals for the cathode (pins 2, 4, and 7) and the two for the anode (pins 1 and 5) offer the equipment designer several different possibilities for connection of the 5651A. Any pair of interconnected pins can be used as a jumper connection to a circuit common to either the cathode or to the anode. The use of such a jumper connection provides a means for opening the circuit to protect circuit components when the 5651A is removed from its socket. Under no circumstances should the current through any pair of interconnected pins exceed one ampere.

If the load for the regulated power supply is disconnected either directly or by removing the 5651A from its socket, the rectifier capacitors will charge to the rectifier peak voltage. It is important, therefore, that these capacitors be rated to withstand such voltage.

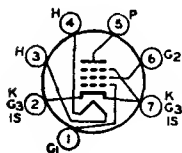
A warm-up period of 3 minutes should be allowed each time the equipment is turned on to insure minimum voltage drift of the 5651A.

When a shunt capacitor is used with the 5651A, its value should be limited to 0.02 μ F. A large value of capacitance may cause the tube to oscillate and thus give unstable performance.

Shielding should be utilized for the 5651A to insure maximum stability when the tube is operated in the presence of strong rf or magnetic fields.

Refer to chart at end of section.

5651WA



7BD

SHARP-CUTOFF PENTODE

5654

INDUSTRIAL
TYPE

Miniature type sharp-cutoff pentode used in RF and IF broad-band applications at frequencies up to 400 mHz. Outlines section, 5B; requires miniature 7-contact socket.

Heater Voltage (ac/dc)	6.3 $\pm 10\%$	volts
Heater Current	0.175	ampere
Heater-Cathode Voltage:		
Peak value	± 100	volts
Direct Interelectrode Capacitances: Δ		
Grid No.1 to Plate	0.020 max.	pF
Input	4.0	pF
Output	2.85	pF

Δ With external shield.

Class A₁ Amplifier

MAXIMUM RATINGS (Absolute-Maximum Values)

Plate Voltage	200	volts
Grid-No.2 (Screen) Voltage	155	volts

Plate Dissipation	1.85	watts
Grid-No.2 Input	0.55	watt
Cathode Current	20	mA

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	120	180	volts
Grid-No.2 Voltage	120	120	volts
Cathode-Bias Resistor	180	180	ohms
Plate Resistance (Approx.)	0.30	0.50	megohm
Transconductance	5000	5100	μ mhos
Plate Current	7.5	7.7	mA
Grid-No.2 Current	2.5	2.4	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μ A ..	-8.5	-8.5	volts

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	0.5	megohm
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Special Ratings & Performance Data**SHOCK RATING**

Impact Acceleration	500 max.	g
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FATIGUE RATING

Vibrational Acceleration	2.5 max.	g
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HEATER CYCLING LIFE PERFORMANCE

Cycles of Intermittent Operation	2000 min.	cycles
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5654W

Refer to chart at end of section.

**5654/6AK5W/
6096**

Refer to chart at end of section.

5663

Refer to chart at end of section.

5670

Refer to chart at end of section.

5670WA

Refer to chart at end of section.

5672

Refer to chart at end of section.

5678

Refer to chart at end of section.

5686

Refer to chart at end of section.

5687

Refer to chart at end of section.

5691

Refer to chart at end of section.

5692

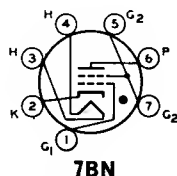
Refer to chart at end of section.

5693

Refer to chart at end of section.

5696**INDUSTRIAL
TYPE****THYRATRON**

Miniature type gas-tetrode thyatron for use in counter-circuit relay applications. Outlines section, 5B; requires miniature 7-contact socket.

**7BN**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.150	ampere
Heater-Cathode Voltage: Peak	+25, -100	volts