

Damper Service

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	5500	volts
Peak Plate Current	1200	mA
Average Plate Current	200	mA
Plate Dissipation	6.5	watts
Heater-Cathode Voltage:		
Peak value	+300	volts
Average value	+100	volts
Bulb Temperature (At hottest point)	180	°C

CHARACTERISTIC, Instantaneous Value

Tube Voltage Drop for plate current of 250 mA	19	volts
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).		

6BR8

Refer to chart at end of section.

For replacement use type 6BR8A/6FV8A.

6BR8A

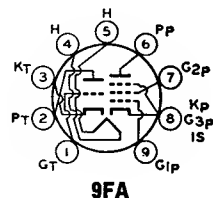
For replacement use type 6BR8A/6FV8A.

6BR8A/ 6FV8A

5BR8/5FV8

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

Miniature type used in color and black-and-white television receiver applications. Especially useful as combined triode oscillator and pentode mixer in vhf television tuners. Outlines section, 6B; requires miniature 9-contact socket. Except for basing arrangement and grid-No.1-to-plate capacitance of pentode unit, types 5BR8/5FV8 and 6BR8A/6FV8A are identical with types 5U8 and 6U8A, respectively.



6BS3

Refer to chart at end of section.

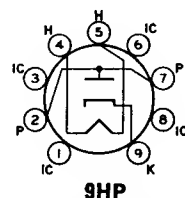
For replacement use type 6BS3A.

6BS3A

12BS3A/
12DW4A, 17BS3A
17BS3A/17DW4A

HALF-WAVE VACUUM RECTIFIER

Novar type used as damper tube in horizontal-deflection circuits of black-and-white television receivers. Outlines section, 30B; requires novar 9-contact socket. Socket terminals 1, 3, 6, and 8 should not be used as tie points; it is recommended that socket clips for these pins be removed to reduce the possibility of arc-over and to minimize leakage. These tubes, like other power-handling tubes, should be adequately ventilated. Types 12BS3A/12DW4A, 17BS3A, and 17BS3A/17DW4A are identical with type 6BS3A except for heater ratings.



	6BS3A	12BS3A/ 12DW4A	17BS3A/ 17BS3A/ 17DW4A	
Heater Voltage (ac/dc)	6.3	12.6	16.8	volts
Heater Current	1.2	0.6	0.45	amperes
Heater Warm-up Time (Average)	—	11	11	seconds
Direct Interelectrode Capacitances (Approx.):				
Plate to Cathode and Heater			6.5	pF
Cathode to Plate and Heater			9	pF
Heater to Cathode			2.8	pF

Damper Service

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	5000	volts
Peak Plate Current	1100	mA
Average Plate Current	200	mA
Plate Dissipation	6	watts
Heater-Cathode Voltage:		
Peak value	+300	volts
Average value	+100	volts

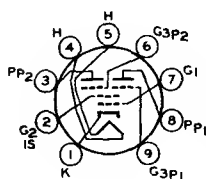
CHARACTERISTIC, Instantaneous Value

Tube Voltage Drop for plate current of 140 mA	12	volts
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Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

Refer to chart at end of section.
For replacement use type 6BQ7A/6BZ7/6BS8.

6BS8



9FG

SHARP-CUTOFF TWIN PENTODE

Miniature type used as combined sync separator, sync clipper, and agc amplifier tube in color and black-and-white television receivers. Outlines section, 6E; requires miniature 9-contact socket. Types 3BU8/3GS8 and 4BU8/4GS8 are identical with type 6BU8 except for heater ratings.

6BU8

**3BU8/3GS8
4BU8/4GS8**

	3BU8/3GS8	4BU8/4GS8	6BU8	
Heater Voltage (ac/dc)	3.15	4.2	6.3	volts
Heater Current	0.6	0.45	0.3	ampere
Heater Warm-up Time (Average)	11	11	—	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances:				
Grid No.3 to Plate (Each Unit)			1.9	pF
Grid-No.1 to All Other Electrodes			6	pF
Grid No.3 to All Other Electrodes (Each Unit)			3.6	pF
Plate to All Other Electrodes (Each Unit)			3	pF
Grid No.3 of Unit No.1 to Grid No.3 of Unit No.2			0.015 max	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage (Each Unit)	300	volts
Grid-No.3 (Suppressor-Grid) Voltage (Each Unit):		
Peak positive value	50	volts
DC negative value	50	volts
DC positive value	3	volts
Grid-No.2 (Screen-Grid) Voltage	150	volts
Grid-No.1 (Control-Grid) Voltage, Negative bias value	50	volts
Cathode Current	12	mA
Plate Dissipation (Each Unit)	1.1	watts
Grid-No.2 Input	0.75	watt

CHARACTERISTICS (With Both Units Operating)

Plate Voltage (Each Unit)	100	100	volts
Grid-No.3 Voltage (Each Unit)	—10	0	volts
Grid-No.2 Voltage	67.5	67.5	volts
Grid-No.1 Voltage	*	*	volts
Plate Current (Each Unit)	—	2.2	mA
Grid-No.2 Current	6.5	3.3	mA
Cathode Current	6.6	7.8	mA

CHARACTERISTICS (With One Unit Operating)

Plate Voltage	100	100	volts
Grid-No.3 Voltage	0	0	volts
Grid-No.2 Voltage	67.5	67.5	volts
Grid-No.1 Voltage	0	*	volts
Grid-No.3 Transconductance	—	180	μmhos
Grid-No.1 Transconductance	1500	—	μmhos