

For replacement use type 12BS3A/12DW4A.

Refer to type 6BS3A.

Refer to chart at end of section.

Refer to chart at end of section.

For replacement use type 12BY7A/12BV7/12DQ7.

Refer to type 6BV11.

Refer to chart at end of section.

Refer to chart at end of section.

For replacement use type 12BY7A/12BV7/12DQ7.

For replacement use type 12BY7A/12BV7/12DQ7.

12BS3A

12BS3A/12DW4A

12BT3

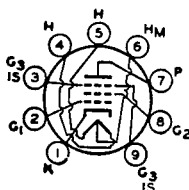
12BV7

12BV11

12BW4

12BY7

12BY7A



9BF

SHARP-CUTOFF PENTODE

Miniature types used as video amplifier in television receivers. Outlines section, 6E; require miniature 9-contact socket.

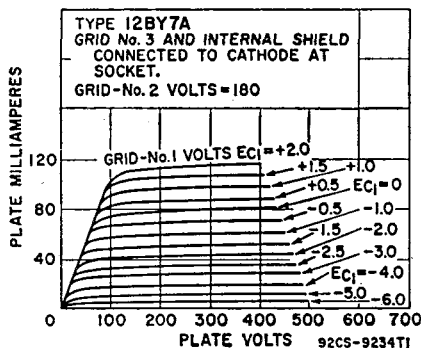
**12BY7A/
12BV7/
12DQ7**

Heater Arrangement:	Series	Parallel	
Heater Voltage (ac/dc)	12.6	6.3	volts
Heater Current	0.3	0.6	ampere
Heater Warm-up Time (Average)	—	11	seconds
Heater-Cathode Voltage:			
Peak value		±200 max	volts
Average value		100 max	volts
Direct Interelectrode Capacitances:			
Grid No.1 to Plate		0.063	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		10.2	pF
Plate to Cathode, Heater, Grid No.2, and Internal Shield		3.5	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Supply Voltage	230	volts
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0	volts
Grid-No.2 (Screen-Grid) Voltage	190	volts
Grid-No.1 (Control-Grid) Voltage		
Negative-bias value	55	volts
Positive-bias value	0	volts
Plate Dissipation	6.5	watts
Grid-No.2 Input	1.2	watts



CHARACTERISTICS

Plate Supply Voltage	250	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	180	volts
Cathode-Bias Resistor	100	ohms
Plate Resistance (Approx.)	93000	ohms
Transconductance	11000	μ ms
Plate Current	26	mA
Grid-No.2 Current	5.75	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μ A	-11.6	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.25	megohm
For cathode-bias operation	1	megohm

12BZ6

Refer to type 6BZ6.

12BZ7

Refer to chart at end of section.

12C5

Refer to type 6CU5.

12C8

Refer to chart at end of section.

12CA5

Refer to type 6CA5.

12CK3

Refer to chart at end of section.

12CL3

Refer to type 6CL3.

12CN5

Refer to chart at end of section.

12CR6

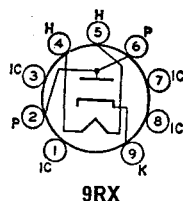
Refer to chart at end of section.

12CS6

Refer to type 6CS6.

12CT3**HALF-WAVE
VACUUM RECTIFIER****17CT3, 25CT3**

Miniature type used as damper tube in horizontal-deflection circuits of black-and-white and small-screen color television receivers. Outlines section, 6H; requires miniature 9-contact socket. Socket terminals 1, 3, 7, and 8 should not be used as tie points for external-circuit components. This tube, like other power-handling tubes, should be adequately ventilated. Types 17CT3 and 25CT3 are identical with type 12CT3 except for heater ratings.

**9RX**

	12CT3	17CT3	25CT3	
Heater Voltage (ac/dc)	6.3	16.8	25.3	volts
Heater Current	0.6	0.45	0.3	amperes
Heater Warm-up Time (Average)	11	11	11	seconds
Direct Inter-electrode Capacitances (Approx.):				
Plate to Cathode and Heater			12	pF
Cathode to Plate and Heater			9.5	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	1200	mA
Average Plate Current	250	mA
Plate Dissipation	4.75	watts
Heater-Cathode Voltage:		
Peak value	+300	volts
Average value	+100	volts
Bulb Temperature (At hottest point)	220	$^{\circ}$ C

CHARACTERISTICS, Instantaneous Value

Tube Voltage Drop for plate current of 350 mA	16	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.	12CT8
Refer to type 6CU5.	12CU5/12C5
For replacement use type 12BQ6GTB/12CU6.	12CU6
Refer to chart at end of section.	12CX6
Refer to chart at end of section.	12D4
Refer to chart at end of section.	12DB5
Refer to chart at end of section.	12DE8
Refer to type 6DK6.	12DK6
Refer to chart at end of section.	12DK7
Refer to chart at end of section.	12DL8
Refer to chart at end of section.	12DM4
Refer to chart at end of section.	12DM4A
Refer to chart at end of section.	12DQ6A
Refer to chart at end of section.	12DQ6B
For replacement use type 12GW6/12DQ6B.	12DQ6B
Refer to chart at end of section.	12DQ7
For replacement use type 12BY7A/12BV7/12DQ7.	12DQ7
Refer to chart at end of section.	12DS7
Refer to type 6DT5.	12DS7A
Refer to type 6DT8.	12DT5
Refer to chart at end of section.	12DT8
Refer to chart at end of section.	12DU7
Refer to chart at end of section.	12DV8
Refer to chart at end of section.	12DW4A
For replacement use type 12BS3A/12DW4A.	12DW4A
Refer to chart at end of section.	12DW7
Refer to chart at end of section.	12DY8
Refer to chart at end of section.	12DZ6
For replacement use type 12EK6/12DZ6/12EA6.	12DZ6
Refer to chart at end of section.	12EA6
For replacement use type 12EK6/12DZ6/12EA6.	12EA6
Refer to chart at end of section.	12EC8
Refer to chart at end of section.	12ED5
Refer to chart at end of section.	12EG6
Refer to chart at end of section.	12EH5
Refer to chart at end of section.	12EK6/12DZ6/12EA6
Refer to chart at end of section.	12EL6
Refer to chart at end of section.	12EM6
Refer to chart at end of section.	12EN6
Refer to chart at end of section.	12EQ7
Refer to chart at end of section.	12F5GT
Refer to chart at end of section.	12F8