

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

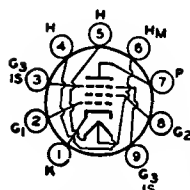
12BW4

12BY7

12BY7A

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

SHARP-CUTOFF PENTODE



9BF

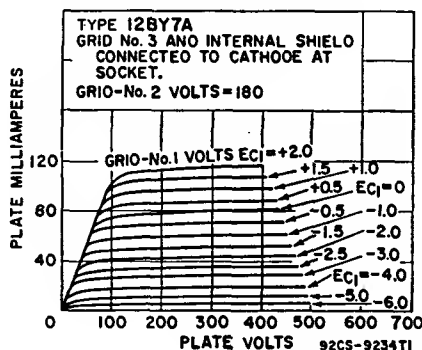
Miniature types used as video amplifier in television receivers. Outlines section, 6E; require miniature 9-contact socket.

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	330	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 mhos
Plate Current	25	mA
Grid-No.2 Current	5.75	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μ A	-11.5	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.

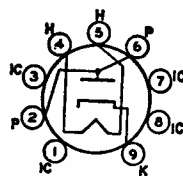
12CS6

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	0.5	0.45	0.3	amperes
Heater Warm-up Time (Average)	11	11	11	seconds
Direct Interelectrode 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
---	----	-------

* Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).