

INDEX=LARGE LUG
●=PIN CUT OFF

12AQ

HIGH-MU TRIODE

Nuvistor type used as grounded-cathode, neutralized rf amplifier in vhf tuners of color and black-and-white television and FM receivers. **Outlines section, 1;** requires nuvistor socket. Type 2DS4 is identical with type 6DS4 except for heater ratings.

6DS4

2DS4

	2DS4	6DS4	
Heater Voltage (ac/dc)	2.1	6.3	volts
Heater Current	0.45	0.135	ampere
Heater Warm-up Time (Average)	8	—	seconds
Peak Heater-Cathode Voltage	±100 max	±100 max	volts
Direct Interelectrode Capacitances (Approx.)			
Grid to Plate		0.92	pF
Grid to Cathode, Heater, and Shell		4.3	pF
Plate to Cathode, Heater, and Shell		1.8	pF
Plate to Cathode		0.18	pF
Heater to Cathode		1.6	pF

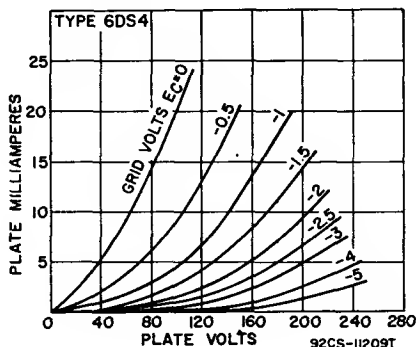
Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Supply Voltage	300°	volts
Plate Voltage	135	volts
Grid Voltage, Negative-bias value	55	volts
Grid Voltage, Peak positive value	0	volts
Cathode Current	15	mA
Plate Dissipation	1.5	watt

CHARACTERISTICS

Plate Supply Voltage	110	volts
Grid Supply Voltage	0	volts
Cathode-Bias Resistor	130	ohms
Amplification Factor	63	
Plate Resistance (Approx.)	7000	ohms
Transconductance	9000	μmhos
Plate Current	6.5	mA
Grid Voltage (Approx.) for plate current of 100 μA	—5	volts
Grid Voltage (Approx.) for plate current of 10 μA	—6.8	volts



TYPICAL OPERATION

Plate Voltage	70	volts
Grid Supply Voltage	0	volts
Grid Resistor	47000	ohms
Amplification Factor	68	
Plate Resistance (Approx.)	5440	ohms
Transconductance	12500	μmhos
Plate Current	7	mA

MAXIMUM CIRCUIT VALUES**Grid-Circuit Resistance:***

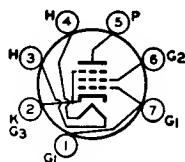
For fixed-bias operation	0.5	megohm
For cathode-bias operation	2.2	megohm

* A plate supply voltage of 300 volts may be used provided a sufficiently large resistor is used in the plate circuit to limit the plate dissipation to 1.5 watts under any condition of operation.

* For operation at metal-shell temperatures up to 125°C.

6DS5**BEAM POWER TUBE**

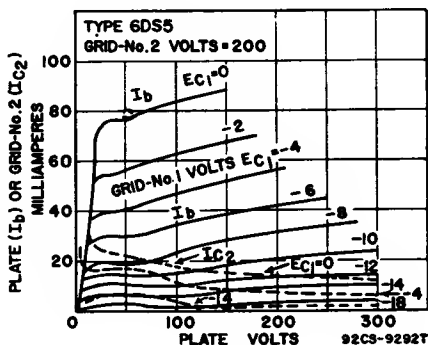
Miniature type used in the audio output stages of television and radio receivers. Outlines section, 5D; requires miniature 7-contact socket.

**7BZ**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.8	ampere
Peak Heater-Cathode Voltage	±200 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.19	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	9.5	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	6.3	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	275	volts
Grid-No.2 (Screen-Grid) Voltage	275	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	9	watts
Grid-No.2 Input	2.2	watts
Bulb Temperature (At hottest point)	250	°C

**TYPICAL OPERATION AND CHARACTERISTICS**

	Cathode-Bias Operation		Fixed-Bias Operation		
Plate Supply Voltage	200	200	200	250	volts
Grid-No.2 Supply Voltage	200	250	200	200	volts
Grid-No.1 Voltage	—	—	-7.5	-8.5	
Cathode-Bias Resistor	180	270	—	—	ohms
Peak AF Grid-No.1 Voltage	7.5	9.2	7.5	8.5	volts
Zero-Signal Plate Current	34.5	27	35	29	mA
Maximum-Signal Plate Current	32.5	25	36	32	mA
Zero-Signal Grid-No.2 Current	3.5	3	3	3	mA
Maximum-Signal Grid-No.2 Current	9	9	9	10	mA
Plate Resistance (Approx.)	28000	28000	28000	28000	ohms
Transconductance	6000	5800	6000	5800	μmhos

	Cathode-Bias Operation		Fixed-Bias Operation		
Load Resistance	6000	8000	6000	8000	ohms
Total Harmonic Distortion	10	10	9	10	per cent
Maximum-Signal Power Output	2.8	3.6	3	3.8	watts