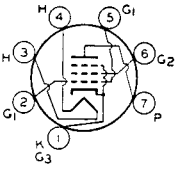
50C5

25C5

BEAM POWER TUBE

Miniature type used in output stage of compact, ac/dc radio receivers. **Outlines section,** 5D; requires miniature 7-contact socket. This tube, like other power-handling tubes, should be adequately ventilated. Within its maximum ratings, type 50C5 is equivalent in performance to glass octal type 50L6GT. Type 25C5 is identical with type 50C5 except for heater ratings.



7CV

	25C5	50C5	
Heater Voltage (ac/dc)	25	50	volts
Heater Current	0.3	0.15	ampere
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):			
Grid No.1 to Plate		0.6	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3		13	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3		8.5	pF

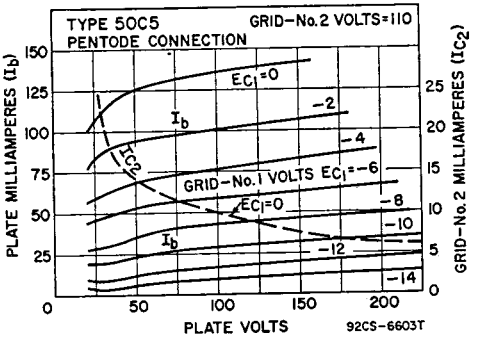
Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	150	volts
Grid-No.2 (Screen-Grid) Voltage	130	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	7	watts
Grid-No.2 Input	1.4	watts
Bulb Temperature (At hottest point)	220	°C

TYPICAL OPERATION

Plate Voltage	120	volts
Grid-No.2 Voltage	110	volts
Grid-No.1 (Control-Grid) Voltage	—8	volts



Peak AF Grid-No.1 Voltage	8	volts
Zero-Signal Plate Current	49	mA
Maximum-Signal Plate Current	50	mA
Zero-Signal Grid-No.2 Current	4	mA
Maximum-Signal Grid-No.2 Current	8.5	mA
Plate Resistance (Approx.)	10000	ohms
Transconductance	7500	μmhos
Load Resistance	2500	ohms
Total Harmonic Distortion	10	per cent
Maximum-Signal Power Output	2.3	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

Installation and Application

The 50-volt heater is designed to operate under the normal conditions of line voltage variation without materially affecting the performance or serviceability of the 50C5. For operation of the 50C5 in series with other types having 0.15-ampere rating, the current in the heater circuit should be adjusted to 0.15 ampere for the normal supply voltage.

In a series-heater circuit of the "dc power line" type employing several 0.15-ampere types and one or two 50C5s, the heater(s) of the 50C5(s) should be placed on the positive side of the line. Under these conditions, heater-cathode voltage of the 50C5 must not exceed the value given under maximum ratings. In a series-heater circuit of the "universal" type employing rectifier tube 35W4, one or two 50C5s, and several 0.15-ampere types, it is recommended that the heater(s) of the 50C5(s) be placed in the circuit so that the higher values of heater-cathode bias will be impressed on the 50C5(s) rather than on the other 0.15-ampere types. This is accomplished by arranging the 50C5(s) on the side of the supply line which is connected to the cathode of the rectifier, i.e., the positive terminal of the rectified voltage supply. Between this side of the line and the 50C5(s), any necessary auxiliary resistance and the heater of the 35W4 are connected in series.

As a power amplifier (class A_1), the 50C5 is recommended for use either singly or in push-pull combination in the power-output stage of "ac/dc" receivers. The operating values shown under typical operation have been determined on the basis that grid-No. 1 current does not flow during any part of the input cycle.

Refer to chart at end of section. **50C6G**

Refer to chart at end of section. **50DC4**

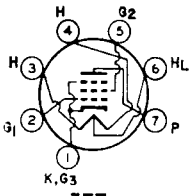
Refer to type 6EH5. **50EH5**

Refer to chart at end of section. **50FE5**

Refer to chart at end of section. **50FK5**

Refer to type 33GY7A. **50GY7A**

Refer to chart at end of section **50HC6**



7FZ

POWER PENTODE **50HK6**

Miniature type used in audio-frequency power-output stage of radio receivers. **Outlines section,** 5D; requires miniature 7-contact socket. The heater is provided with a tap for operation of a panel lamp. **Heater:** volts (ac/dc), 50; amperes, 0.15; tap volts (without panel lamp), 7; maximum heater-cathode volts, ±200 peak, 100 average.

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	150	volts
Grid-No.2 (Screen-Grid) Voltage	130	volts
Plate Dissipation	5.5	watts
Grid-No.2 Input	1.1	watts
RMS Heater-Tap Voltage When Panel Lamp Fails	14	volts

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	110	volts
Grid-No.2 Voltage	110	volts
Grid-No.1 (Control-Grid) Voltage	—7.5	volts
Peak AF Grid-No.1 Voltage	7.5	volts
Zero-Signal Plate Current	49	mA
Maximum-Signal Plate Current	50	mA
Zero-Signal Grid-No.2 Current	4	mA
Maximum-Signal Grid-No.2 Current	8.5	mA
Plate Resistance (Approx.)	10000	ohms
Transconductance	7500	μmhos
Load Resistance	2500	ohms
Total Harmonic Distortion (Approx.)	9	per cent
Maximum-Signal Power Output	1.9	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

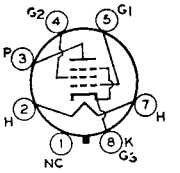
50JY6 Refer to chart at end of section.

50L6GT

25L6GT

BEAM POWER TUBE

Glass octal type used in output stage of ac/dc radio receivers. **Outlines section,** 13D; requires octal socket. This type may be supplied with pin No.1 omitted. Refer to miniature type 50C5 for installation and application information. Type 25L6GT is identical with type 50L6GT except for heater ratings.



7AC

	25L6GT	50L6GT	
Heater Voltage (ac/dc)	25	50	volts
Heater Current	0.3	0.15	ampere
Peak Heater-Cathode Voltage	±90 max	±90 max	volts
Direct Interelectrode Capacitances (Approx.):			
Grid No.1 to Plate		0.6	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3		15	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3		9.5	pF

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Center Values)

Plate Voltage	200	volts
Grid-No.2 (Screen-Grid) Voltage	125	volts
Plate Dissipation	10	watts
Grid-No.2 Input	1.25	watts

TYPICAL OPERATION	**Fixed Bias**	**Cathode Bias**	
Plate Supply Voltage	110	200	volts
Grid-No.2 Supply Voltage	110	125	volts
Grid-No.1 (Control-Grid) Voltage	—7.5	—	volts
Peak AF Grid-No.1 Voltage	7.5	8.0	volts
Cathode-Bias Resistor	—	180	ohms
Zero-Signal Plate Current	49	46	mA
Maximum-Signal Plate Current	50	47	mA
Zero-Signal Grid-No.2 Current	4	2.2	mA
Maximum-Signal Grid-No.2 Current	10	8.5	mA
Plate Resistance (Approx.)	13000	28000	ohms
Transconductance	3000	8000	μmhos
Load Resistance	2000	4000	ohms
Total Harmonic Distortion	10	10	per cent
Maximum-Signal Power Output	2.1	3.8	watts

50X6 Refer to chart at end of section.

50Y6GT Refer to chart at end of section.

Refer to chart at end of section.	**50Y7GT**
Refer to chart at end of section.	**50Z7G**
Refer to chart at end of section.	**53**
Refer to type 38HK7.	**53HK7**
Refer to type 12FX5.	**60FX5**
Refer to chart at end of section.	**70L7GT**
Refer to chart at end of section.	**75**
Refer to chart at end of section.	**78**
Refer to chart at end of section.	**80**
Refer to chart at end of section.	**83**
Refer to chart at end of section.	**84/6Z4**
Refer to chart at end of section.	**117L7GT/M7GT**
Refer to chart at end of section.	**117N7GT**
Refer to chart at end of section.	**117P7GT**
Refer to chart at end of section.	**117Z3**
Refer to chart at end of section.	**117Z4GT**
Refer to chart at end of section.	**117Z6GT**
Refer to chart at end of section.	**407A**
Refer to chart at end of section.	**408A**
Refer to chart at end of section.	**884**
Refer to chart at end of section.	**955**
Refer to chart at end of section.	**959**
Refer to chart at end of section.	**991**
Refer to chart at end of section.	**1612**
Refer to chart at end of section.	**1614**
Refer to chart at end of section.	**1619**
Refer to chart at end of section.	**1620**
Refer to chart at end of section.	**1621**
Refer to chart at end of section.	**1622**
Refer to chart at end of section.	**1629**
Refer to chart at end of section.	**1635**