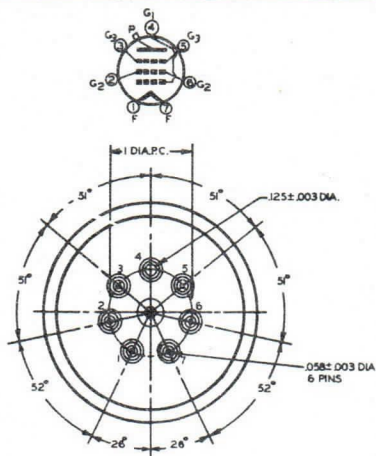
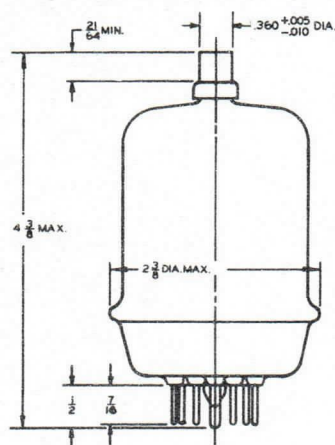




PL-6549

Beam Pentode



DESCRIPTION

The Penta PL-6549 is a 75-watt dissipation aligned-grid pentode featuring good performance at low plate voltage, but also capable of good performance at relatively high voltage, for medium-power applications. The improved current-division characteristics resulting from the use of a

suppressor grid permit the use of screen voltages approaching the plate voltage in low power applications. This feature of the PL-6549 results in excellent power gain and output characteristics, both as an audio and radio-frequency amplifier.

ELECTRICAL CHARACTERISTICS

Filament — Thoriated Tungsten (Quick Heating)

Voltage

6.0 volts

Current

3.3 amperes

Grid-Screen mu Factor

5.0

Transconductance (500 v. E_{b1} , 400 v. E_{c2} , 0 v. E_{c3} , 150 ma. I_{b1})

4500 μ mhos

Interelectrode Capacitances

Grid-Plate

0.09 μ mf

Input

7.5 μ mf

Output

3.4 μ mf

MECHANICAL CHARACTERISTICS

Base¹

7-pin Septar, EIA E 7-2

Basing

See base diagram

Maximum Overall Dimensions

Length

4.38 inches

Diameter

2.38 inches

Mounting Position — Vertical, base up or down

¹ Fits Johnson No. 122-101 or 122-247 or National No. HX-29 sockets.

20 April 1965

Form 92C-111A



THE PENTA LABORATORIES, INC.

A SUBSIDIARY OF RAYTHEON COMPANY

312 N. NOPAL STREET • SANTA BARBARA, CALIFORNIA 93102



PL-6549

MAXIMUM RATINGS — C C S (Continuous Commercial Service)

(Frequencies below 175 Mc.)

	Class-C FM or CW	Class-C Plate Mod.	Class AB ₁ Audio Ampl.	Class AB ₂ Audio Ampl.
D-C Plate Voltage	2000	2000	2000	2000 volts
D-C Screen-Grid Voltage	600	600	600	600 volts
D-C Suppressor-Grid Voltage	100	100	100	100 volts
D-C Plate Current	150	125	175	175 ma.
Plate Dissipation	75	50	75	75 watts
Screen-Grid Input	10	10	10	10 watts

TYPICAL OPERATION — Class-C CW or FM Amplifier

Frequencies below 175 Mc.

D-C Plate Voltage	600	750	1000	1500	2000	volts
D-C Screen-Grid Voltage	400	400	400	400	400	volts
D-C Suppressor-Grid Voltage	70	70	70	70	70	volts
D-C Control-Grid Voltage	-90	-90	-105	-115	-125	volts
D-C Plate Current	150	150	150	150	150	ma.
D-C Screen-Grid Current	18	17	16	14	12	ma.
D-C Suppressor-Grid Current	7	6.5	5.5	5	5	ma.
D-C Control-Grid Current	6	6	5	5	5	ma.
Peak R-F Grid Voltage (approx.)	130	125	140	155	165	volts
Driving Power (approx.)	0.75	0.75	0.70	0.75	0.80	watts
Screen-Grid Power Input	7.2	6.8	6.8	6.4	4.8	watts
Plate Power Input	90	112	150	225	300	watts
Plate Dissipation	30	38	40	45	50	watts
Plate Power Output	60	74	110	180	250	watts

TYPICAL OPERATION — Class-AB₁ A.F. Power Amplifier or Modulator (Sine Wave, Two Tubes)

D-C Plate Voltage	600	1000	1500	2000	volts
D-C Screen-Grid Voltage	600	600	600	600	volts
D-C Suppressor-Grid Voltage	70	70	70	70	volts
D-C Control-Grid Voltage*	-100	-108	-115	-120	volts
Zero-Sig. D-C Plate Current	70	50	40	30	ma.
Max.-Sig. D-C Plate Current	350	320	240	210	ma.
Zero-Sig. D-C Screen-Grid Current	1.5	0.5	0.3	0.1	ma.
Max.-Sig. D-C Screen-Grid Current	28	20	14	9	ma.
Peak A-F Grid-to-Grid Voltage	195	200	180	170	volts
Plate-to-Plate Load Resistance	2550	5800	11,700	19,800	ohms
Max.-Sig. Plate Dissipation (per tube)	59	68	73	73	watts
Max.-Sig. Plate Power Output	92	185	220	275	watts

TYPICAL OPERATION — Class-AB₂ A.F. Power Amplifier or Modulator (Sine Wave, Two Tubes)

D-C Plate Voltage	600	1000	1500	2000	volts
D-C Screen-Grid Voltage	400	400	400	400	volts
D-C Suppressor-Grid Voltage	70	70	70	70	volts
D-C Control-Grid Voltage*	-65	-72	-78	-85	volts
Zero-Sig. D-C Plate Current	70	50	40	30	ma.
Max.-Sig. D-C Plate Current	350	350	285	225	ma.
Zero-Sig. D-C Screen-Grid Current	1.4	0.5	0.2	0.1	ma.
Max.-Sig. D-C Screen-Grid Current	40	34	18	10	ma.
Peak A-F Grid-to-Grid Voltage	210	230	190	180	volts
Driving Power (Max. Sig.)	2.3	1.8	0.9	0.05	watts
Plate-to-Plate Load Resistance	2700	5500	11,100	19,000	ohms
Max.-Sig. Plate Dissipation (per tube)	50	73	74	70	watts
Max.-Sig. Plate Power Output	110	205	280	325	watts

*Approximate value. Adjust to give stated value of zero-signal plate current.