



PL-254W

Power Triode

The PL-254W is a 100-watt radiation-cooled triode suitable for use as an r-f power amplifier, frequency multiplier or oscillator, and as an a-f power amplifier and modulator. The tube is widely used in base-station communications equipment, and will deliver up to 400 watts when operated at maximum ratings as a Class-C CW or FM amplifier. Internal geometry of the PL-254W is such that it is exceptionally efficient in VHF operation.

ELECTRICAL CHARACTERISTICS

Filament -- Thoriated Tungsten	
Voltage - - - - -	5.0 volts
Current - - - - -	7.5 amperes
Amplification Factor	25
Interelectrode Capacitances	
Grid-Plate - - - - -	2.5 μ f
Input - - - - -	3.4 μ f
Output - - - - -	0.43 μ f
Transconductance ($E_b = 2500$ v., $I_b = 40$ ma.) - - - - -	2000 μ mhos

MECHANICAL CHARACTERISTICS

Base ¹ - - - - -	Jumbo 4-pin, JETEC A4-29
Maximum Overall Dimensions	
Length - - - - -	7.13 inches
Diameter - - - - -	2.69 inches
Net Weight (average) - - - - -	6.0 ounces
Mounting Position - - - - -	Vertical, base up or down

MAXIMUM RATINGS — C C S (Continuous Commercial Service)

	Class C CW or FM	Class C Telephony	
D-C Plate Voltage	4000	3000	max. volts
D-C Plate Current	225	180	max. ma.
D-C Grid Current	60	60	max. ma.
Plate Dissipation	100	85	max. watts

¹ Fits E. F. Johnson Co. No. 123-211 socket.

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PENTA LABORATORIES, INC.

312 NORTH NOPAL STREET • SANTA BARBARA, CALIFORNIA



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TYPICAL OPERATION — Class-C CW or FM Amplifier

Grounded-Cathode Circuit

D-C Plate Voltage	1000	2000	3000	4000	volts
D-C Plate Current	225	215	165	125	ma.
D-C Grid Voltage	-195	-230	-245	-260	volts
D-C Grid Current	60	55	40	30	ma.
Peak R-F Grid Voltage (approx.)	480	500	480	450	volts
Driving Power (approx.)	25	25	18	12	watts
Plate Power Input	225	430	500	500	watts
Plate Dissipation	80	100	100	100	watts
Plate Power Output	125	330	400	400	watts

TYPICAL OPERATION — Class-C Amplitude-Modulated Amplifier, Carrier Conditions

Grounded-Cathode Circuit

D-C Plate Voltage	1000	2000	2500	3000	volts
D-C Plate Current	180	180	168	140	ma.
D-C Grid Voltage	-315	-355	-360	-355	volts
D-C Grid Current	45	45	40	35	ma.
Peak R-F Grid Voltage (approx.)	580	620	610	580	volts
Driving Power (approx.)	23	25	23	19	watts
Plate Power Input	180	360	420	420	watts
Plate Dissipation	65	85	85	85	watts
Plate Power Output	115	275	335	335	watts

