

## PL8F76R Tetrode



The Penta PL8F76R is a forced-air cooled, 15,000 watt plate dissipation, ceramic and metal tetrode. When 2 tubes are employed in a driving stage they will provide up to 50KW of AF or RF power.

The PL8F76R is especially well suited for use as an oscillator, amplifier or modulator as frequencies up to 250 MHz. The excellent characteristics of the PL8F76R will provide outstanding performance in a linear single side band amplifier class AB, AF or as a screen-modulated radio frequency amplifier.

### Electrical Characteristics

Filament: Thoriated Tungsten

	Min.	Nom.	Max.	
Voltage .....		7.5		Volts
Current .....	114		126	Amperes
Grid-Screen Amplification Factor .....	7		11	
Transconductance .....	50			mA/V
Interelectrode capacitances				
Grid-Cathode .....	50		62	pF
Grid-Screen .....	81		101	pF
Grid-Plate .....			0.6	pF
Screen-Plate .....	19		21	pF
Screen-Cathode .....		4		pF
Cathode-Plate .....			0.075	pF

### Mechanical Characteristics

Mounting Position .....	Vertical
Outline Dimensions .....	See Drawing
Maximum Seal and Anode Temperature .....	250° C
Net Weight .....	21 pounds
Required Air Flow at Maximum Dissipation .....	706 C.F.M.

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## PENTA LABORATORIES

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ELECTRON TUBES FOR INDUSTRY



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## Cooling

Forced air cooling of the base, base seal, and other internal tube surfaces is required for all classes of operation. It should be noted that maintaining surface temperatures below the maximum values will substantially prolong the useful tube life.

## Plate Dissipation

Under most classes of operation, the maximum plate dissipation allowable for the PL8F76R is 15,000 watts; however, in SSB and audio frequency amplifier applications, this maximum may be exceeded by 20%, thus allowing an effective 18,000 watts of plate dissipation. During tuning, plate dissipation may be permitted to rise above the stated maximums for brief periods of time.

## Screen-Grid Operation

Under no conditions should the screen dissipation be allowed to exceed 300 watts. Excessive screen dissipation is likely to result where plate voltage, plate load, or bias voltage are removed, suitable precautions should be taken to avoid these conditions while filament and screen voltages are applied.

## Control-Grid Operation

The PL8F76R has a maximum control grid dissipation rating of 180 watts; failure to respect this maximum will result in damage to the tube. Tube life can be extended by maintaining grid bias and driving power at the recommended values whenever possible.

## Filament Voltage

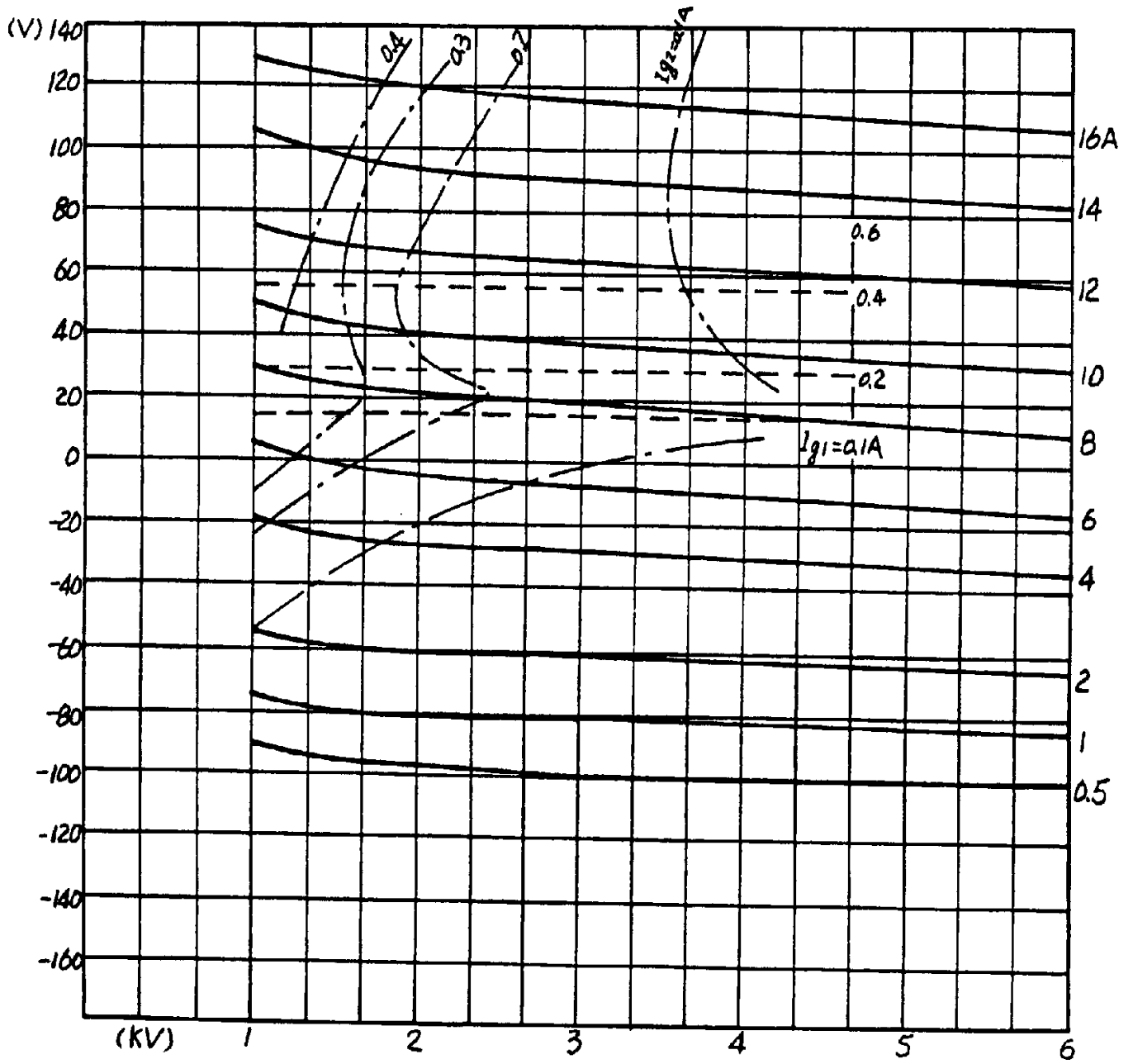
The PL8F76R is designed to operate with 7.5 volts applied to the filament. Under no circumstances should filament voltage be allowed to deviate from this value by more than 5%. The useful life of the tube can be extended by adhering to this value as closely as possible.

## Maximum Ratings

Frequency .....	250	MHz
D.C. Plate Voltage .....	10	KV
Screen Voltage .....	1.5	KV
D.C. Plate Current .....	5.5	Amperes
Plate Dissipation .....	15	KW
Screen Dissipation .....	300	Watts
Grid Dissipation .....	180	Watts



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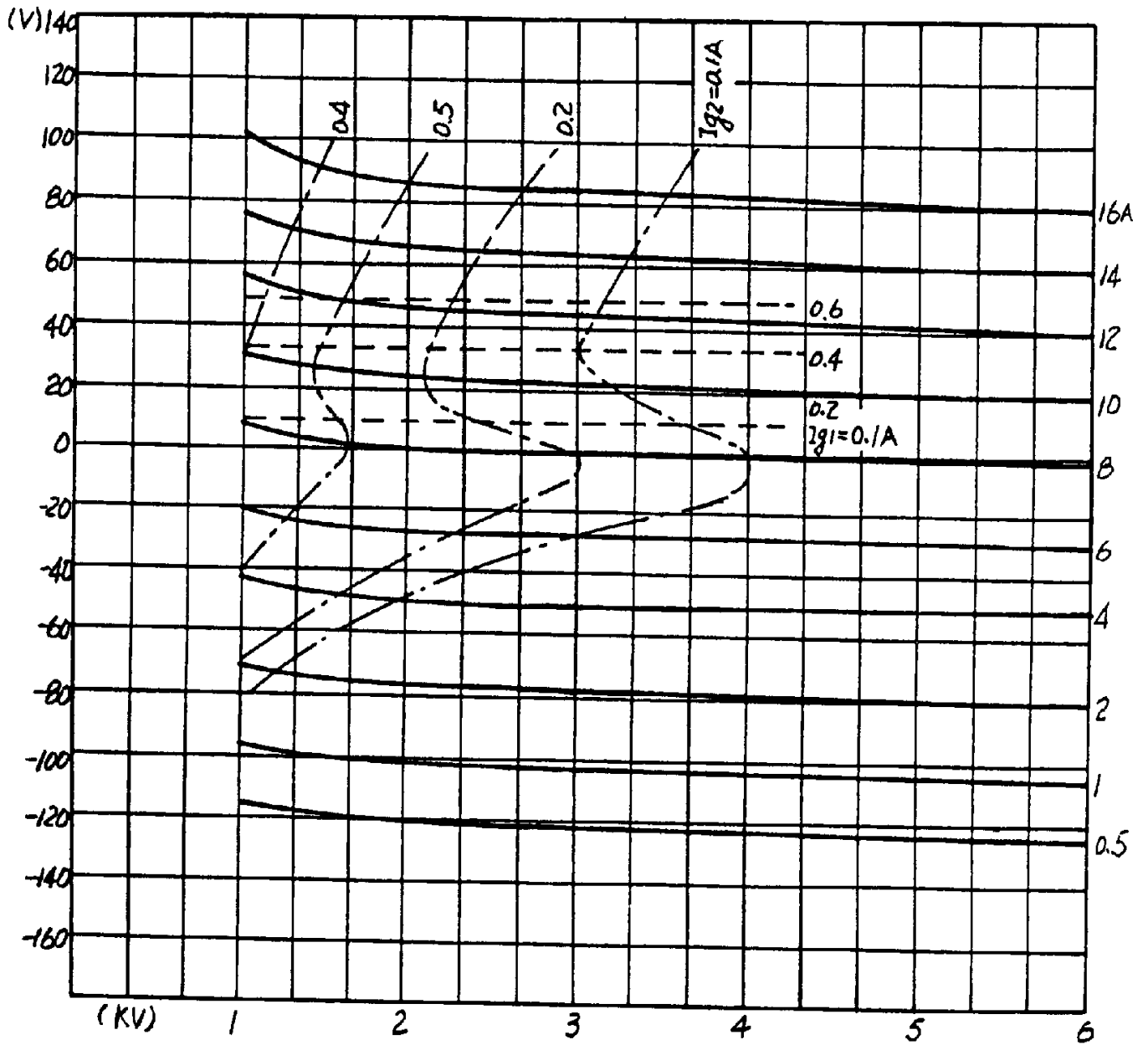


$E_{g2} = 800 V$

—  $I_a$   
- - -  $I_{g1}$   
- · - · -  $I_{g2}$



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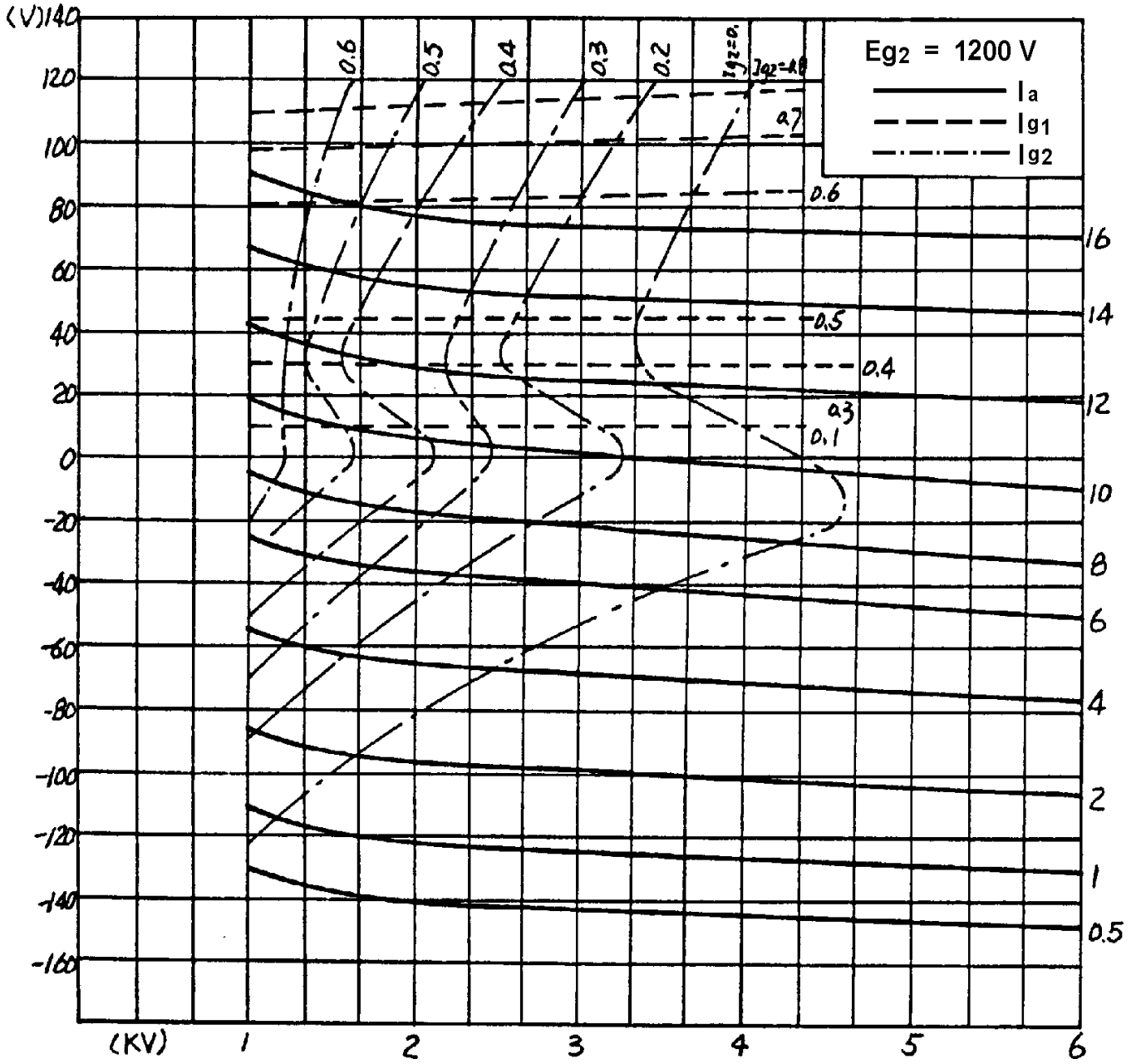


$E_{g2} = 1000 V$

- $I_a$
- - - - -  $I_{g1}$
- · - · -  $I_{g2}$



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