VKL-7966A Klystron

Communications & Power Industries

CPI Microwave Power Products (MPP) offers klystrons for particle accelerator applications. The VKL-7966A is a 1.497 GHz, 100 kW CW klystron for the injector stage of the Free Electron Laser (FEL) Driver Accelerator at Thomas Jefferson National Accelerator Facility.

Key Features

- Diode Electron gun
- 6-cavity rf circuit
- Single output window, WR-650 Waveguide Flange
- Collector capable of dissipating the entire beam power

Typical Operating Parameters

Power Output	110	kWatts
Beam Voltage	33.5	kV
Beam Current	6.5	A
Frequency	1.497	GHz
-1dB Bandwidth	14	MHz
Saturated Gain	55.5	dB
Efficiency	51	%
Collector Coolant Flow	65 / 250	gpm / l/m
Body Coolant Flow	5 / 20	gpm / l/m
Solenoid:		
Current	22	A
Voltage	86	V
Current Flow	2 / 8	gpm / l/m
Size:		
Klystron Height	58 / 148	inches / cm
Klystron Weight	350 / 160	pounds / kg
Solenoid Height	23 / 58	inches / cm
Solenoid Diameter	18 / 46	inches / cm
Solenoid Weight	375 / 170	pounds / kg

For information on Super Power Klystrons and other CPI MPP products, visit our website at www.cpii.com/mpp, or contact:
CPI Microwave Power Products Division, 607 Hansen Way, Palo Alto, CA 94303
Telephone: 650-846-3900, Fax: 650-856-0705, Email: marketing@cpii.com

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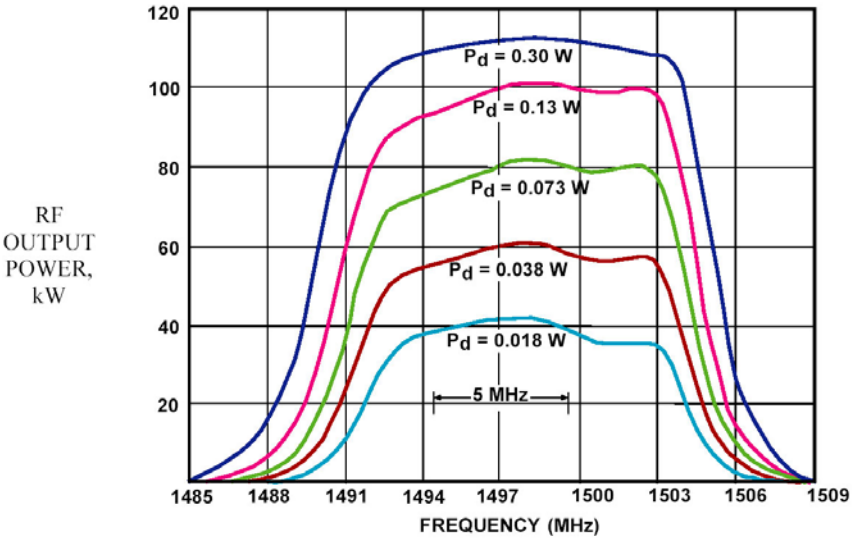
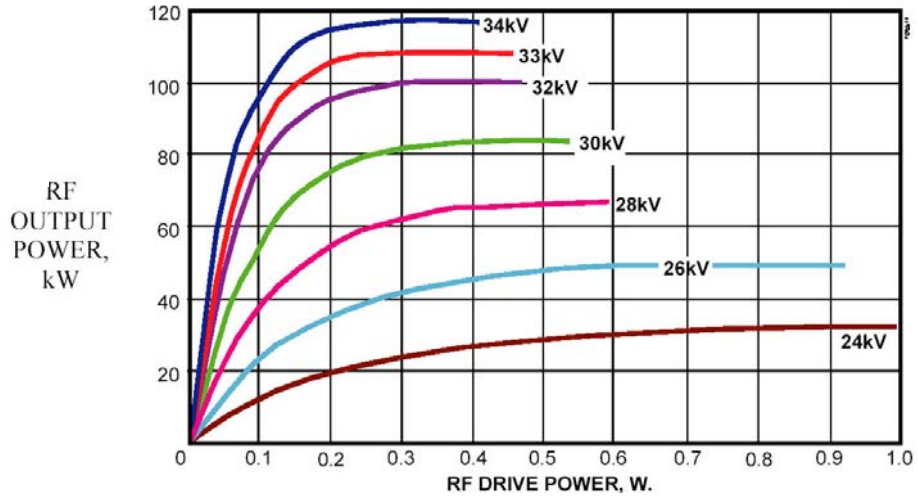
Typical Operating Characteristics

Transfer Curve



Frequency Response

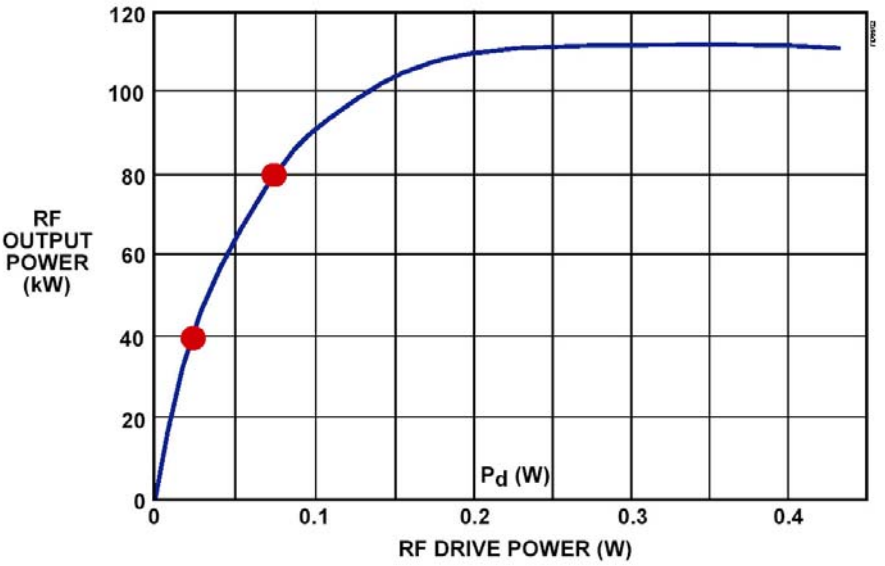
Data taken at a beam voltage of 33.5 kV



Incremental Gain

When the klystron is operating at either the 80kW or 40kW output power level and the RF drive is changed by 1 dB, there must be a corresponding output power change of 0.5 dB or greater.

$$\text{Inc. Gain} = \frac{\Delta \text{RF output power (dB)}}{\Delta \text{RF input power (dB)}}$$



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ISO 9001