

VKL-8301 Multiple Beam Klystron



CPI Microwave Power Products (MPP) offers klystrons for particle accelerator applications. The VKL-8301 is a 1300 MHz, 10 MW peak power, 150 kW average power, long-pulse multiple beam klystron for the European X-FEL and International Linear Collider (ILC) projects.



Key Features

- Multiple beams result in lower operating voltages
- Higher-order-mode interaction results in long cathode lifetimes (>100,000 hours predicted)
- Six beam, cathode-pulsed electron gun
- Six cavity RF circuit including one second-harmonic cavity for enhanced efficiency
- Dual WR650 waveguide outputs
- Collectors capable of dissipating the entire beam power

Operating Parameters

| | | |
|--------------------------|-----------|-------------------|
| Frequency | 1300 | MHz |
| Peak Power Output | 10 | MWatts |
| Average Output Power | 150 | kWatts |
| Peak Beam Voltage | 120 | kV |
| Peak Beam Current | 141 | A |
| Efficiency | 59 | % |
| Saturated Gain | 48 | dB |
| -1dB Bandwidth | ±3.5 | MHz |
| Duty | 1.5 | % |
| RF Pulse width | 1.50 | msec |
| Cathode Loading | 2.2 | A/cm ² |
| Heater Voltage | 24 | V |
| Heater Current | 22 | A |
| Collector Coolant Flow | 40 / 150 | gpm / 1pm |
| Body-Window Coolant Flow | 1.5 / 5.5 | gpm / 1pm |

| | | |
|----------------|-----------|-----------|
| Electromagnet: | | |
| Power | 5.0 | W |
| Coolant Flow | 2.5 / 9.5 | gpm / 1pm |

| | | |
|------------------------|-------------|-------------|
| Size with Accessories: | | |
| Klystron Length | 101 / 257 | inches / cm |
| Klystron Weight | 2000 / 900 | pounds / kg |
| Electromagnet Diameter | 35 / 88 | in/cm |
| Electromagnet Weight | 3200 / 1450 | lbs /kg |

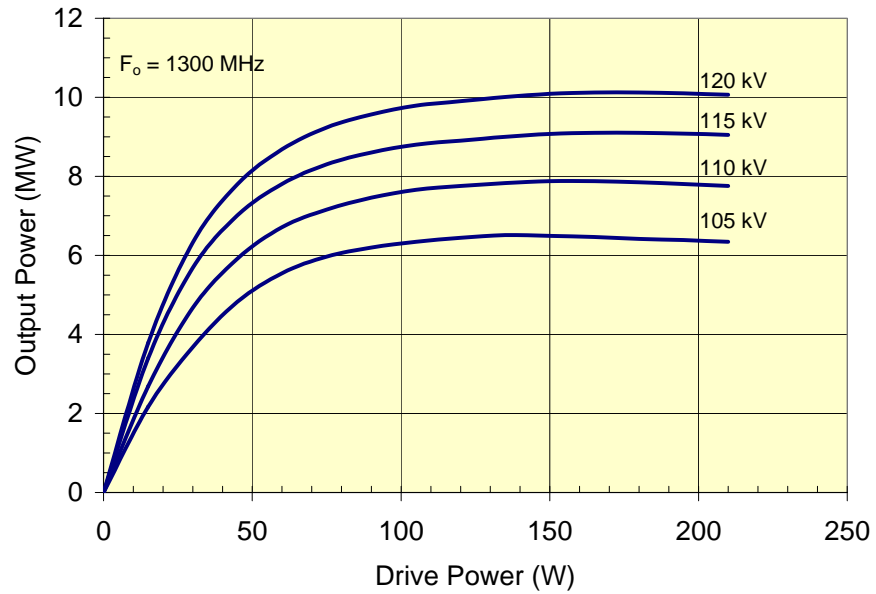
For information on Super Power Klystrons and other CPI MPP products, visit our website at www.cpii.com/mpp, or contact:
CPI/Microwave Products Division, 607 Hansen Way, Palo Alto, CA 94303
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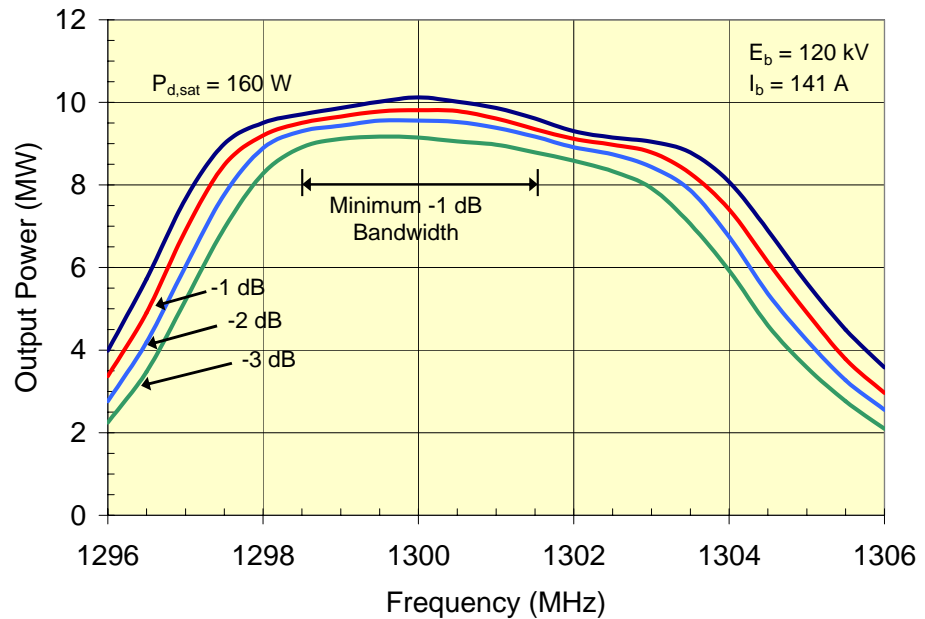
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Transfer Curve



Frequency Response



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