

# Ku-Band Klystrons

The Ku-Band Series of klystron is designed for use in ground based earth-to-satellite communication amplifiers. The Ku-Band Series is available in various configurations and frequency ranges to suit exact customer requirements. This family of klystrons has output power specifications ranging from 1200 to 2450 watts over 75 to 85 MHz of instantaneous bandwidth. These klystrons can be configured to provide users with 6,8,12, or 24 channels thus allowing operators to select preset center frequencies within seconds. In addition, Digital Fast Tuner System (DFTS) channel changers are available for sub-second selection of up to 50 channels.

## RF and Electrical Specifications

### Frequency Range (Channel Centers)

VKU2454A	12.79 to 13.21 GHz
VKU2455A	13.72 to 14.46 GHz
VKU2455B, and D	13.72 to 14.475 GHz
VKU2482B, and C	14.50 to 14.80 GHz
VKU7791J, VKU7820A, and C	14.025 to 14.475 GHz
VKU7791P	14.00 to 14.50 GHz

### Output Power

VKU2454A	2200W
VKU2455A, VKU2482B	2000W
VKU2455B, and D	2450W
VKU2482C	2450W
VKU7791J	2000W
VKU7791P	1200W
VKU7820A, and C	2450W

### Instantaneous Bandwidth - minimum at -1 dB points

VKU2455A	80 MHz
VKU7791P	75 MHz
Other models	85 MHz

### Gain - minimum (at rated power)

VKU2482B, and C	43 dB
VKU7791P	37 dB
Other models	45 dB

### Beam Voltage - maximum

VKU2455A and B, VKU2482B	8.8 kV
Other Models	9.0 kV

### Beam Current - maximum

VKU7791P, VKU7820A	
VKU2454A, VKU2455A	1.20A
VKU2455B	1.10A
Other Models	1.30A

Heater Voltage - nominal 6.5 V

Heater Current - typical 4.2 A



(DFTS Model Shown)

## Physical Characteristics

Dimensions See outline drawings.

Weight - approximate 55 lb to 80 lb or  
25 kg to 37 kg.  
Depending on model.

Operating Orientation Collector up

Cooling Forced Air  
collector flow - minimum  
VKU7791P 450 lb/hr (205 kg/hr)  
Other models 1000 lb/hr (455 kg/hr)  
body flow - minimum  
VKU2454A, VKU2455A,  
VKU7791J 120 lb/hr (55 kg/hr)  
VKU7791P 90 lb/hr (41 kg/hr)  
Other models 150 lb/hr (68 kg/hr)

RF Connectors input/output Mates with UG-419/U

Focusing Integral permanent magnet

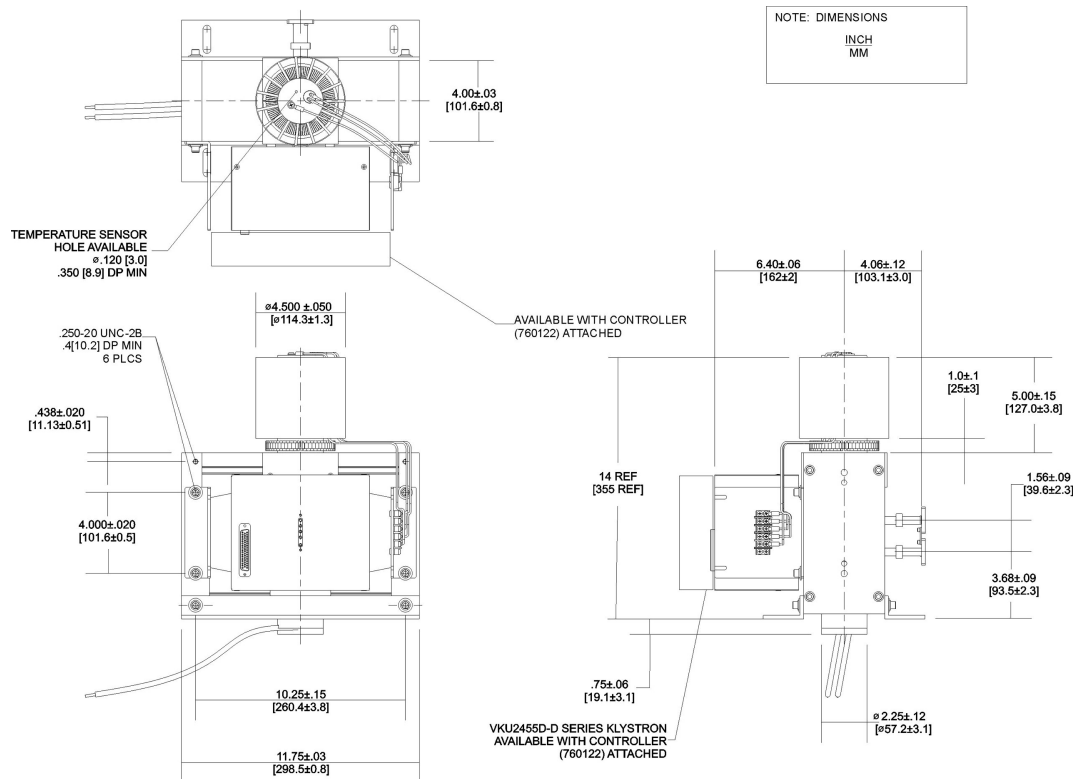
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## Typical Characteristics

Type	Frequency Range (GHz)*Note 1	Instantaneous Bandwidth (MHz)*Note 2	Output Power (W)	Gain (dB)	Beam Voltage (kV)	Beam Current (mA)
VKU2454A	12.79 - 13.21	90	2300	49	8.3	1.05
VKU2455A	13.72 - 14.46	90	2200	49	8.4	1.05
VKU2455B, D	13.72 - 14.475	90	2520	49	8.6	1.10
VKU2482B	14.50 - 14.80	90	2200	48	8.6	1.06
VKU2482C	14.50 - 14.80	90	2480	48	8.7	1.06
VKU7791J	14.025 - 14.75	88	2050	49	8.2	1.05
VKU7791P	14.00 - 14.50	85	1250	38	7.9	0.7
VKU7820A, C	14.025 - 14.475	90	2500	49	8.6	1.10

- Note 1: Frequencies listed are channel centers.
- Note 2: Bandwidth measured at -1dB points.
- For full specifications please contact CPI.

## Sample Outline Drawing



For complete information on the full Ku-Band Series and other klystrons used in satellite communications, please contact your local CPI office, or CPI Canada Inc.



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