

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

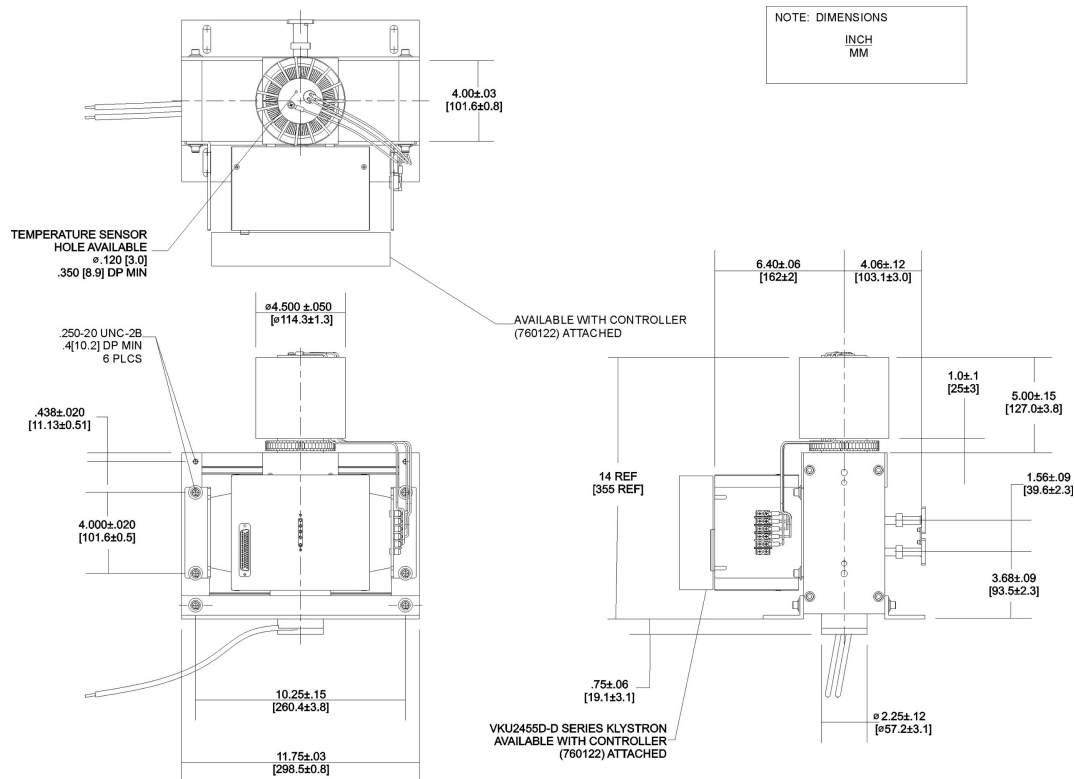
Ku-Band Klystrons

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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