

Indian Institute of Technology Kanpur

Center for Lasers and Photonics

September 04, 2013

Enquiry Number: CELP/UD/INST/NC7,

Dated: September 04, 2013

Opening date: September 04, 2013 at 4:00 PM

Closing date: September 11, 2013 at 5:00 PM

Sealed quotations are invited for the supply of Photodiode in Liquid Nitrogen cooled Metal Dewar (with VO-1 vacuum port valve operator), with Preamplifier as per the following specifications.

Technical specifications of Photodiode in Liquid Nitrogen cooled Metal Dewar (with VO-1 vacuum port valve operator), with Preamplifier:

Photodiode Preferred: InGaAs Avalanche Photodiode (APD)

- APD Active area diameter : > 0.2mm (preferable > 0.3mm)
- APD Operational Wavelength:800-1700nm (preferable 600-1700nm) (room temperature)
- APD Peak Responsivity Wavelength : Approximately 1550nm
- APD Responsivity @ M=1: > 0.9A/W
- APD Dark Current @ M=10: < 150nA
- APD Excess Noise factor: < 4 at M=10
- APD Noise Equivalent Power : < 0.02-1pW/ $\sqrt{\text{Hz}}$. (depending on APD area)
- APD Absolute Max Reverse Current : > 3mA
- APD Max Forward Current : > 5mA
- APD Breakdown Voltage : > 30V
- APD Operating Temperature : -196oC.
- Preamplifier Conversion Impedance : > 10,000,000 V/A
- Bandwidth: > 200MHz.

Photodiode Alternative: InGaAs PIN Photodiode

- PIN Photosensitive area diameter : 1-3mm
- PIN Operational Wavelength:800-2400nm
- PIN Peak Responsivity Wavelength : Approximately 2000nm (room temperature)
- PIN Photosensitivity after amplifier : > 2 x 10⁹ V/W
- PIN with Preamplifier Noise Equivalent Power : < 3 x 10⁻¹⁴ W/ $\sqrt{\text{Hz}}$.
- PIN with Preamplifier Bandwidth : > 500Hz.
- PIN Operating Temperature : -196oC.

Terms and conditions:

- Technical and financial details should be in separate envelope.
- Maximum educational discounts should be applied
- Validity of quotation should be at least for 60 days.
- Price should be on FOR IIT Kanpur & should include the installation and training cost.
- Institute is exempted for payment of Excise Duty under notification No. 10/97.
- Warranty/Guarantee should be clearly mentioned.
- Normal payment terms for the institute will be applicable (90% on delivery of the items and remaining 10% after satisfactory installation/inspection).
- Quotation should carry proper certifications like agency certificate, proprietary certificate, etc.

- The delivery should be specifically stated. Earlier delivery may be preferred.
- The indenter reserves the right to withhold placement of final order. The right to reject all or any of the
- Quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.

Kindly send the quotation (in duplicate) in sealed envelope latest by 11.09.2013 to the following address.

Prof. Utpal Das
Department of Electrical Engineering
Indian Institute of Technology Kanpur, 208016
utpal@iitk.ac.in