

**1 310 nm InGaAsP MQW-FP LASER DIODE
COAXIAL MODULE WITH MONITOR PD FOR OTDR APPLICATION****DESCRIPTION**

The NX7335 Series is a 1 310 nm Multiple Quantum Well (MQW) structured Fabry-Perot (FP) laser diode coaxial module with single mode fiber. This module is specified to operate under pulsed condition and designed for light source of Optical Time Domain Reflectometer (OTDR).

FEATURES

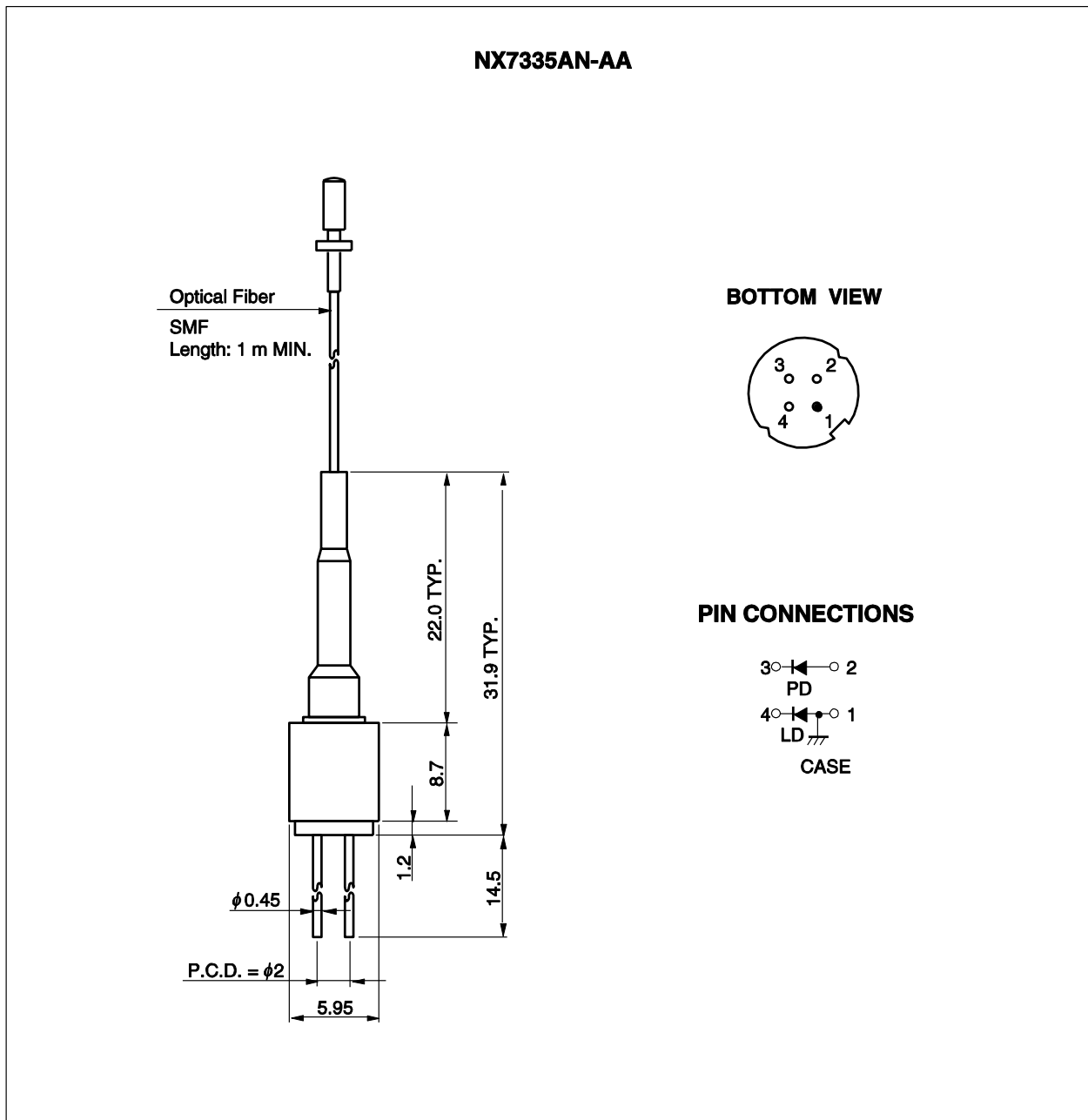
- High output power $P_f = 40 \text{ mW} @ I_{FP} = 200 \text{ mA}^{*1}$
- Long wavelength $\lambda_c = 1\,310 \text{ nm}$
- Built-in monitor PD

*1 Pulse Conditions: Pulse width (PW) = 10 μs , Duty = 1%

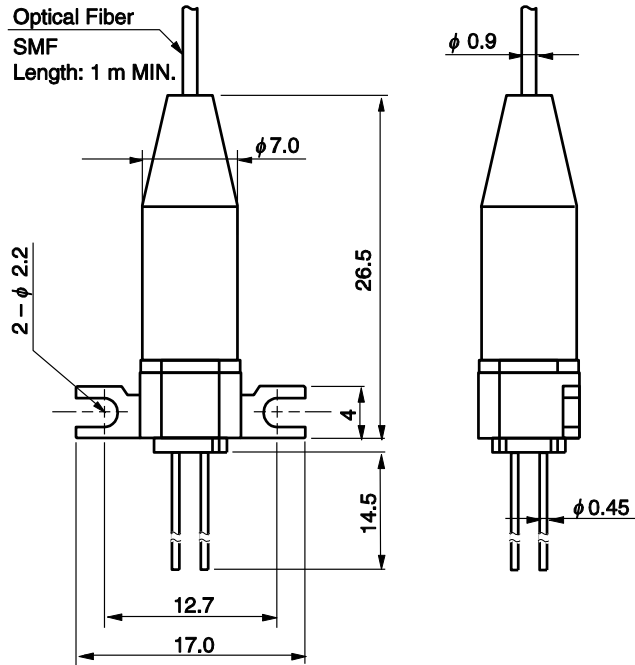


The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version.

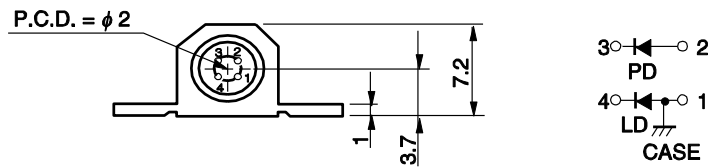
PACKAGE DIMENSIONS (UNIT: mm)



NX7335BN-AA

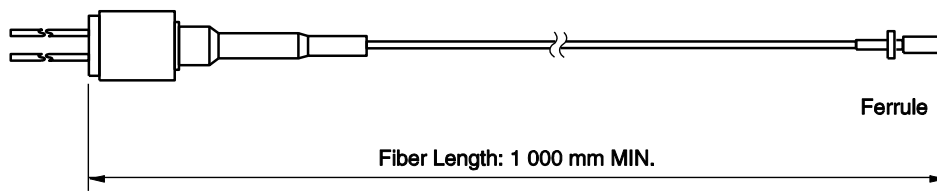


PIN CONNECTIONS



OPTICAL FIBER CHARACTERISTICS

| Parameter | Specification | Unit |
|-------------------------------------|----------------|------|
| Mode Field Diameter | 9.5±1 | μm |
| Cladding Diameter | 125±2 | μm |
| Maximum Cladding Noncircularity | 2 | % |
| Maximum Core/Cladding Concentricity | 1.6 | % |
| Outer Diameter | 0.9±0.1 | mm |
| Cut-off Wavelength | 1 140 to 1 280 | nm |
| Minimum Fiber Bending Radius | 30 | mm |
| Fiber Length | 1 000 MIN. | mm |



ORDERING INFORMATION

| Part Number | Flange Type |
|-------------|-------------------|
| NX7335AN-AA | without flange |
| NX7335BN-AA | flat mount flange |

ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Ratings | Unit |
|--------------------------------------|-------------------|--------------|------|
| Pulsed Forward Current ^{*1} | I _{FP} | 300 | mA |
| Reverse Voltage | V _R | 2.0 | V |
| Reverse Voltage (monitor PD) | V _{RM} | 10 | V |
| Reverse Current (monitor PD) | I _{FPM} | 2.0 | mA |
| Operating Case Temperature | T _C | 0 to +60 | °C |
| Storage Temperature | T _{stg} | -40 to +85 | °C |
| Lead Soldering Temperature | T _{slid} | 350 (3 sec.) | °C |
| Relative Humidity (noncondensing) | RH | 85 | % |

*1 Pulse Condition: Pulse Width (PW) = 10 μs, Duty = 1%

ELECTRO-OPTICAL CHARACTERISTICS (T_C = 25°C)

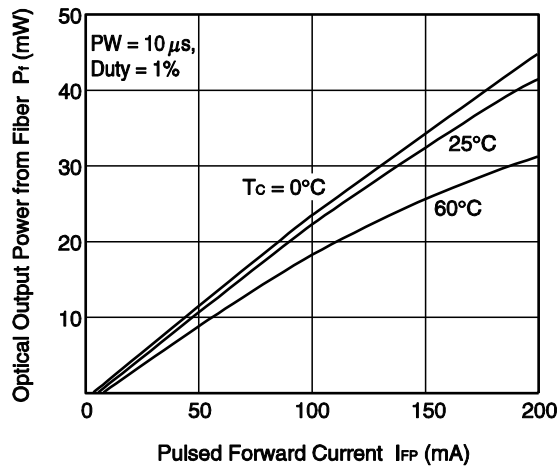
| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|---------------------------------|------------------|--|-------|-------|-------|------|
| Forward Voltage | V _{FP} | I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | | | 3.5 | V |
| Threshold Current | I _{th} | | | 8 | 30 | mA |
| Optical Output Power from Fiber | P _f | I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | 20 | 40 | | mW |
| Center Wavelength | λ _C | RMS (-20 dB), I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | 1 290 | 1 310 | 1 330 | nm |
| Spectral Width | σ | RMS (-20 dB), I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | | | 10.0 | nm |
| Rise Time | t _r | 10-90% | | 0.5 | 2.0 | ns |
| Fall Time | t _f | 90-10% | | 0.5 | 2.0 | ns |
| Forward Current (CW) | I _{fcw} | P _{fcw} = 2 mW | | 15 | | mA |
| Monitor Current | I _m | P _{fcw} = 2 mW, V _{RM} = 2 V | 0.05 | | 2 | mA |

ELECTRO-OPTICAL CHARACTERISTICS (T_c = 0 to +60°C)

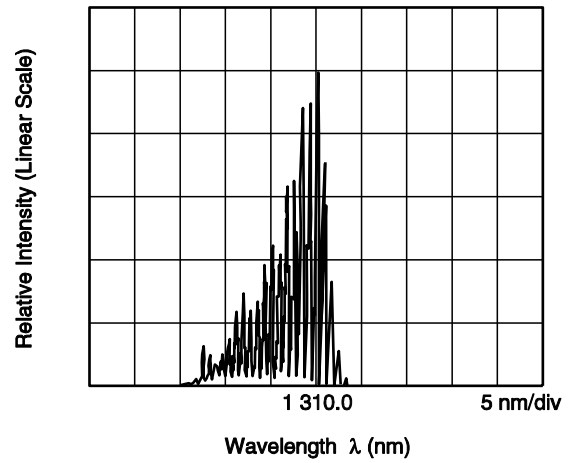
| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|---------------------------------|----------------|--|-------|------|-------|------|
| Optical Output Power from Fiber | P _f | I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | 10 | | | mW |
| Center Wavelength | λ _c | RMS (-20 dB), I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | 1 280 | | 1 352 | nm |
| Spectral Width | σ | RMS (-20 dB), I _{FP} = 200 mA, PW = 10 μs, Duty = 1% | | | 10 | nm |

TYPICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$, unless otherwise specified)

OPTICAL OUTPUT POWER FROM FIBER vs. PULSED FORWARD CURRENT



SPECTRUM



Remark The graphs indicate nominal characteristics.

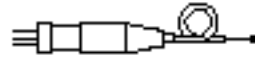
REFERENCE

| Document Name | Document No. |
|-----------------------------------|--------------|
| Opto-Electronics Devices Pamphlet | PX10160E |

SAFETY INFORMATION ON THIS PRODUCT



SEMICONDUCTOR LASER



AVOID EXPOSURE - Invisible Laser Radiation is emitted from this aperture

| | |
|-------------------------------------|---|
| <p>Warning Laser Beam</p> | <p>A laser beam is emitted from this diode during operation. The laser beam, visible or invisible, directly or indirectly, may cause injury to the eye or loss of eyesight.</p> <ul style="list-style-type: none"> • Do not look directly into the laser beam. • Avoid exposure to the laser beam, any reflected or collimated beam. |
| <p>Caution GaAs Products</p> | <p>This product uses gallium arsenide (GaAs). GaAs vapor and powder are hazardous to human health if inhaled or ingested, so please observe the following points.</p> <ul style="list-style-type: none"> • Follow related laws and ordinances when disposing of the product. If there are no applicable laws and/or ordinances, dispose of the product as recommended below. <ol style="list-style-type: none"> 1. Commission a disposal company able to (with a license to) collect, transport and dispose of materials that contain arsenic and other such industrial waste materials. 2. Exclude the product from general industrial waste and household garbage, and ensure that the product is controlled (as industrial waste subject to special control) up until final disposal. • Do not burn, destroy, cut, crush, or chemically dissolve the product. • Do not lick the product or in any way allow it to enter the mouth. |
| <p>Caution Optical Fiber</p> | <p>A glass-fiber is attached on the product. Handle with care.</p> <ul style="list-style-type: none"> • When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments. |