

# NX7339BB-AA

## Data Sheet

R08DS0005EJ0400

Rev.4.00

Jul 12, 2012

### LASER DIODE

1 310 nm InGaAsP MQW-FP LASER DIODE COAXIAL MODULE FOR OTDR APPLICATION

### DESCRIPTION

The NX7339BB-AA 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  $P_f = 50 \text{ mW} @ I_{FP} = 400 \text{ mA}^{*1}$
- Long wavelength  $\lambda_c = 1 \text{ 310 nm}$

**\*1** Pulse Conditions: Pulse width (PW) = 10  $\mu\text{s}$ , Duty = 1%



The mark <R> shows major revised points.

The revised points can be easily searched by copying an "<R>" in the PDF file and specifying it in the "Find what:" field.



Parameter	Specification	Unit
Mode Field Diameter	9.3±0.5	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	1 100 to 1 280	nm
Minimum Fiber Bending Radius	30	mm
Fiber Length	1 000 MIN.	mm

Ferrule

Fiber Length: 1 000 mm MIN.

**NX7339BB-AA**

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**ORDERING INFORMATION**

Part Number	Flange Type
NX7339BB-AA	flat mount flange

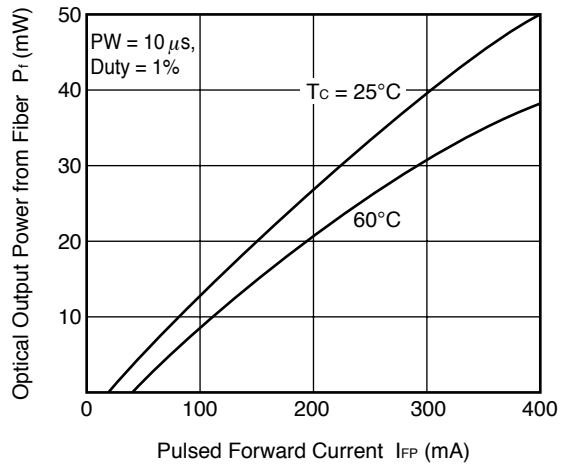
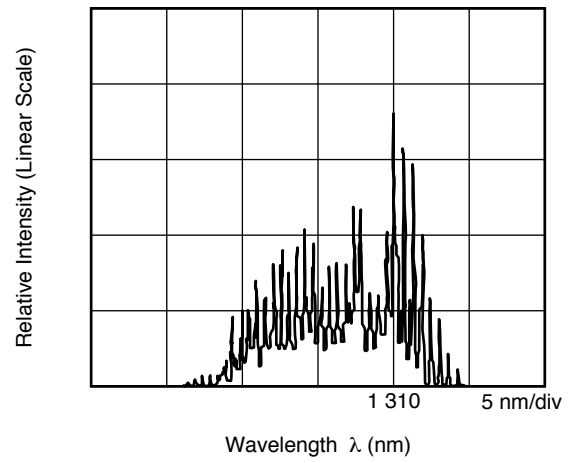
**NX7339BB-AA****<R> ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C, unless otherwise specified)**

Parameter	Symbol	Ratings	Unit
Pulsed Forward Current <sup>*1</sup>	I <sub>FP</sub>	600	mA
Reverse Voltage	V <sub>R</sub>	2.0	V
Operating Case Temperature	T <sub>C</sub>	–20 to +60	°C
Storage Temperature	T <sub>stg</sub>	–40 to +85	°C
Lead Soldering Temperature	T <sub>slid</sub>	350 (3 sec.)	°C
Relative Humidity (noncondensing)	RH	85	%

<sup>\*1</sup> Pulse Condition: Pulse Width (PW) = 10  $\mu$ s, Duty = 1%

**ELECTRO-OPTICAL CHARACTERISTICS (T<sub>C</sub> = 25°C, unless otherwise specified)**

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward Voltage	V <sub>FP</sub>	I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1%		2.5	4.0	V
Threshold Current	I <sub>th</sub>	T <sub>C</sub> = 0 to +60°C			50	mA
Optical Output Power from Fiber	P <sub>t</sub>	I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1%	25	50		mW
		I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1% T <sub>C</sub> = 0 to +60°C	15			
Center Wavelength	$\lambda_C$	RMS (–20 dB), I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1%	1 290	1 310	1 330	nm
		RMS (–20 dB), I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1% T <sub>C</sub> = 0 to +60°C	1 280		1 342.5	
Spectral Width	$\sigma$	RMS (–20 dB), I <sub>FP</sub> = 400 mA, PW = 10 $\mu$ s, Duty = 1% T <sub>C</sub> = 0 to +60°C			10.0	nm
Rise Time	t <sub>r</sub>	10-90%			2.0	ns
Fall Time	t <sub>f</sub>	90-10%			2.0	ns

**NX7339BB-AA**
**TYPICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ , unless otherwise specified)**
**OPTICAL OUTPUT POWER FROM FIBER vs. PULSED FORWARD CURRENT**

**SPECTRUM**


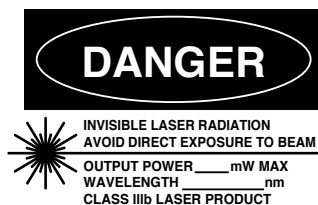
**Remark** The graphs indicate nominal characteristics.

**REFERENCE**

Document Name	Document No.
Opto-Electronics Devices Pamphlet <sup>*1</sup>	PX10160E

<sup>\*1</sup> Published by the former NEC Electronics Corporation.

## SAFETY INFORMATION ON THIS PRODUCT



## SEMICONDUCTOR LASER



**AVOID EXPOSURE-Invisible**  
 Laser Radiation is emitted from  
 this aperture

<b>Warning</b>	Laser Beam	<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"> <li>• Do not look directly into the laser beam.</li> <li>• Avoid exposure to the laser beam, any reflected or collimated beam.</li> </ul>
<b>Caution</b>	GaAs Products	<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"> <li>• 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"> <li>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.</li> <li>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.</li> </ol> </li> <li>• Do not burn, destroy, cut, crush, or chemically dissolve the product.</li> <li>• Do not lick the product or in any way allow it to enter the mouth.</li> </ul>
<b>Caution</b>	Optical Fiber	<p>A glass-fiber is attached on the product. Handle with care.</p> <ul style="list-style-type: none"> <li>• When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments.</li> </ul>

<b>Revision History</b>	<b>NX7339BB-AA Data Sheet</b>
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Rev.	Date	Description	
		Page	Summary
–	Jul 2006	–	Previous No. : PL10604EJ02V0DS
3.00	Sep 19, 2010	p.1	Modification of photograph
		p.2	Modification of <b>PACKAGE DIMENSIONS</b>
4.00	Jul 12, 2012	p.2	Modification of <b>OPTICAL FIBER CHARACTERISTICS</b>
		p.4	Modification of <b>ABSOLUTE MAXIMUM RATINGS</b>

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