

NX7337AF-AA

LASER DIODE

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

R08DS0149EJ0100

Rev.1.00

Mar 15, 2019

DESCRIPTION

The NX7337AF-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 $P_r = 180 \text{ mW} @ I_{FP} = 1\,000 \text{ mA}^{*1}$
- Long wavelength $\lambda_c = 1\,310 \text{ nm}$

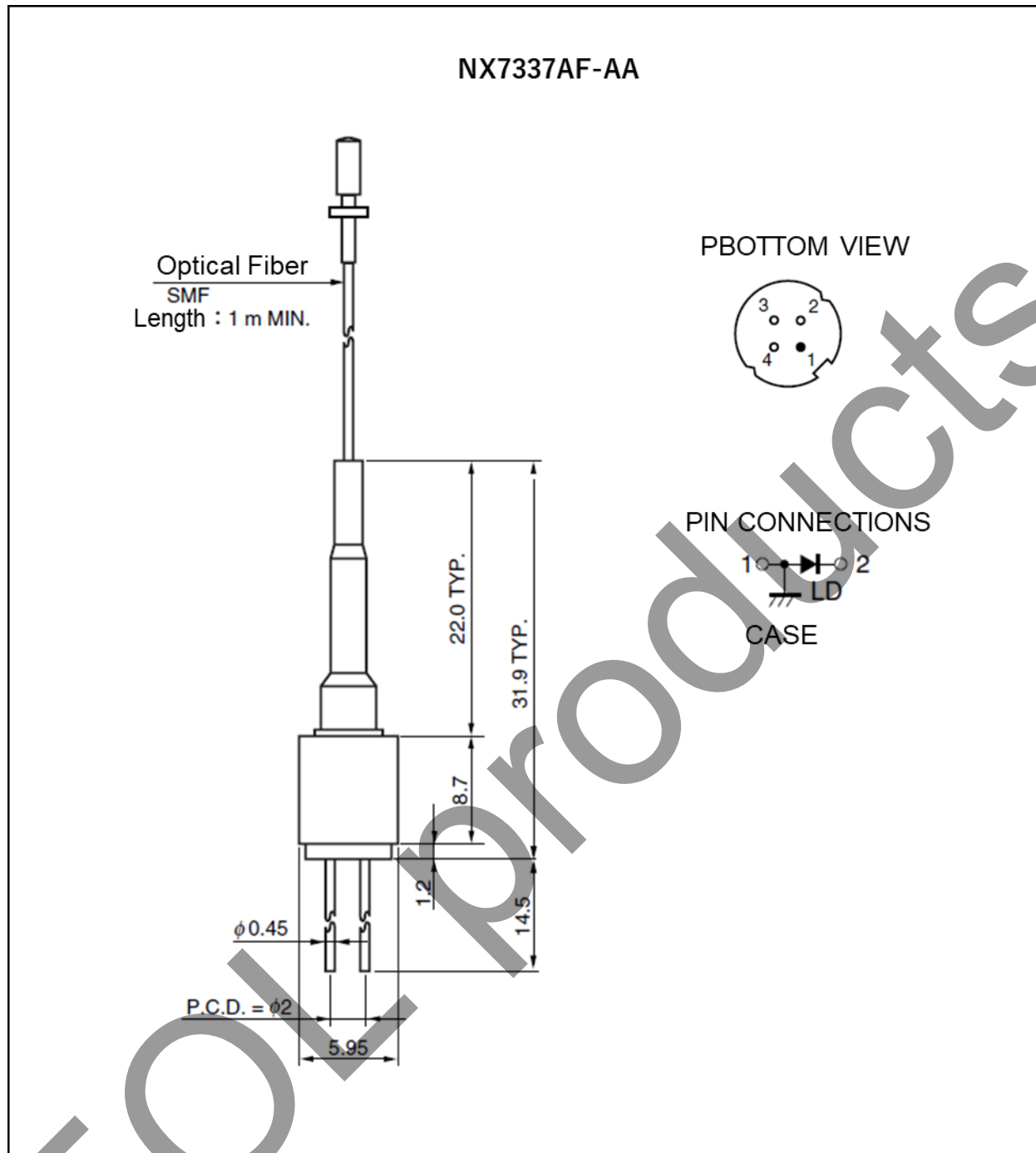
*1 Pulse Conditions: Pulse width (PW) = 10 μs , Duty = 1%



The mark <R> shows major revised points.

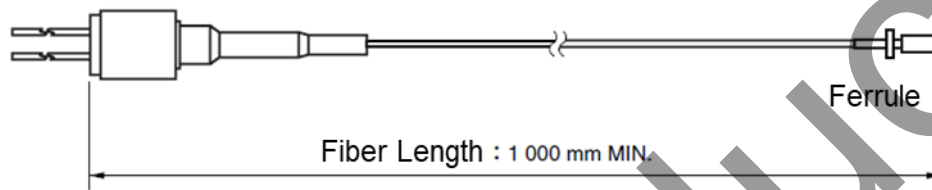
The revised points can be easily searched by copying an "<R>" in the PDF file and specifying it in the "Find what:" field.

PACKAGE DIMENSIONS (UNIT: mm)



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
NX7337AF-AA-AZ	unflanged type

ABSOLUTE MAXIMUM RATINGS (T_c = 25°C, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Pulsed Forward Current ^{*1}	I _{FP}	1.2	A
Reverse Voltage	V _R	2.0	V
Operating Case Temperature	T _c	−20 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%

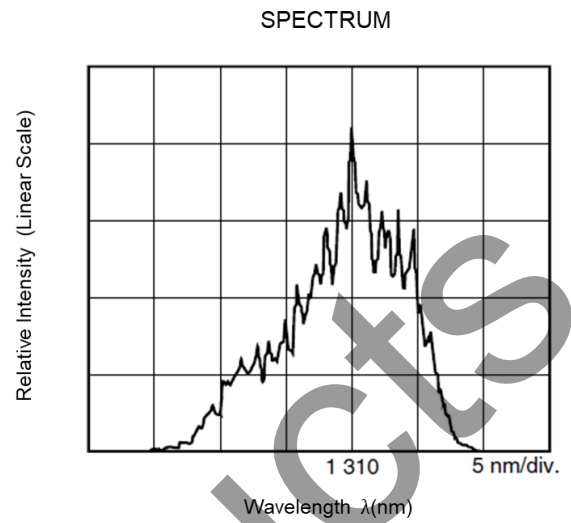
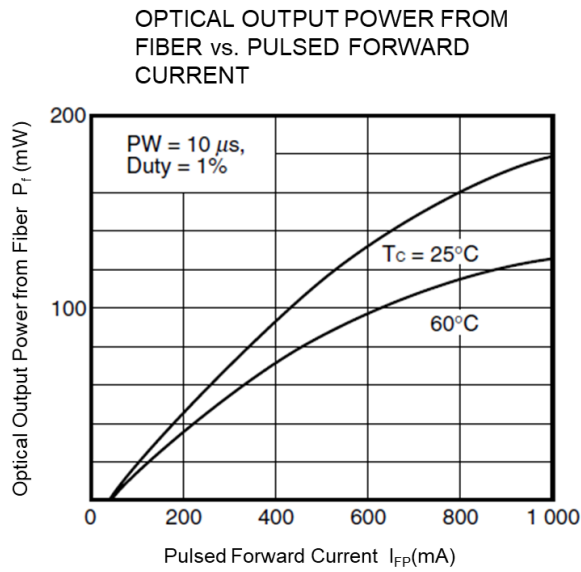
ELECTRO-OPTICAL CHARACTERISTICS (T_c = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward Voltage	V _{FP}	I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%		2.5	4.0	V
Threshold Current	I _{th}			35	65	mA
Optical Output Power from Fiber	P _i	I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	130	180		mW
Center Wavelength	λ _c	RMS (−20 dB), I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	1 290	1 310	1 330	nm
Spectral Width	σ	RMS (−20 dB), I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%		4.5	10.0	nm
Rise Time	t _r	10-90%			2.0	ns
Fall Time	t _f	90-10%			2.0	ns

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold Current	I _{th}				80	mA
Optical Output Power from Fiber	P _i	I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	75			mW
Center Wavelength	λ _c	RMS (−20 dB), I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	1 280		1 342.5	nm
Temperature Dependency of Center Wavelength	Δλ/ΔT			0.35		nm/°C
Spectral Width	σ	RMS (−20 dB), I _{FP} = 1 000 mA, PW = 10 μs, Duty = 1%			10	nm

TYPICAL CHARACTERISTICS (T_c = 25°C, unless otherwise specified)



Remark The graphs indicate nominal characteristics.

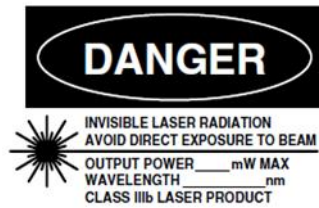
REFERENCE

Document Name	Document No.
Opto-Electronics Devices Pamphlet*1	PX10160E

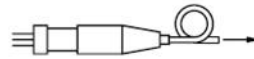
*1 Published by the former NEC Electronics Corporation.

EOLE products

SAFETY INFORMATION ON THIS PRODUCT



SEMICONDUCTOR LASER



AVOID EXPOSURE-Invisible
Laser Radiation is emitted from
this aperture

Warning 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"> • Do not look directly into the laser beam. • Avoid exposure to the laser beam, any reflected or collimated beam.
Caution 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"> • 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.
Caution Optical Fiber	<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.

Revision History	NX7337AF-AA Data Sheet
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Rev.	Date	Description	
		Page	Summary
1.00	Mar 15, 2019	—	New document

EOOL products

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(Rev.4.0-1 November 2017)



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Renesas Electronics Corporation
TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan

Renesas Electronics America Inc.
1001 Murphy Ranch Road, Milpitas, CA 95035, U.S.A.
Tel: +1-408-432-8888, Fax: +1-408-434-5351

Renesas Electronics Canada Limited
9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3
Tel: +1-905-237-2004

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: +44-1628-651-700

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-6503-0, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.
Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China
Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

Renesas Electronics Hong Kong Limited
Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2265-6688, Fax: +852 2886-9022

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949
Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd.
Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd.
No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India
Tel: +91-80-67208700, Fax: +91-80-67208777

Renesas Electronics Korea Co., Ltd.
17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5338