To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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DATA SHEET

RENESAS

LASER DIODE

NX7637BF-AA

1 625 nm InGaAsP MQW-FP LASER DIODE COAXIAL MODULE FOR OTDR APPLICATION

DESCRIPTION

The NX7637BF-AA is a 1 625 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).

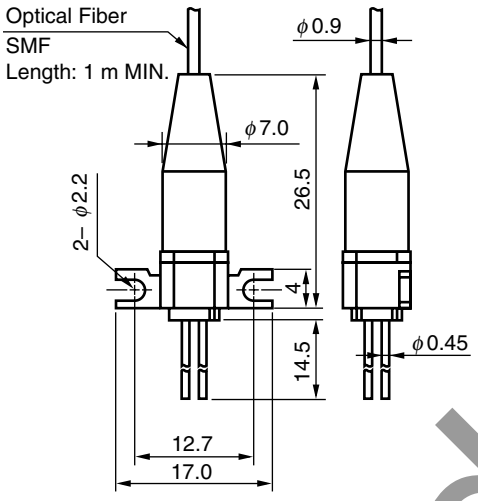
FEATURES

- High output power P_f = 140 mW @ I_{FP} = 1 000 mA[*1]
- Long wavelength λ_C = 1 625 nm

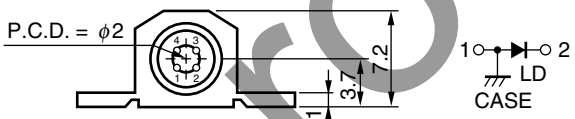
***1** Pulse Conditions: Pulse width (PW) = 10 μs, Duty = 1%

Document No. PL10794EJ01V0DS (1st edition)
Date Published March 2010 NS
Printed in Japan

PACKAGE DIMENSIONS (UNIT: mm)

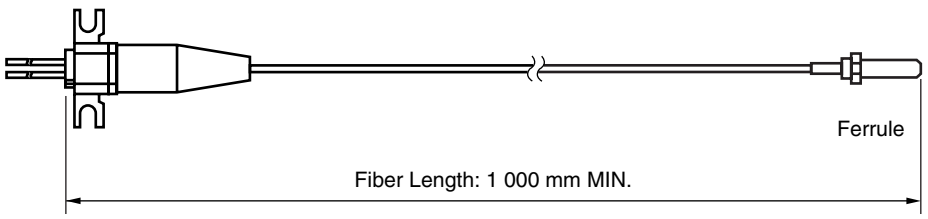


PIN CONNECTIONS



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
NX7637BF-AA	flat mount flange

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Pulsed Forward Current*1	I_{FP}	1 200	mA
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_{sld}	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%			4.0	V
Threshold Current	I_{th}			45	70	mA
Optical Output Power from Fiber	P_f	I_{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	80	140		mW
		I_{FP} = 1 000 mA, PW = 10 μs, Duty = 1%, T_C = 0 to +60°C	40			
Center Wavelength	λ_C	RMS (–20 dB), I_{FP} = 1 000 mA, PW = 10 μs, Duty = 1%	1 615		1 635	nm
Spectral Width	σ	RMS (–20 dB), I_{FP} = 1 000 mA, PW = 10 μs, Duty = 1%, T_C = 0 to +60°C		7	15	nm
Rise Time	t_r	10-90%			2.0	ns
Fall Time	t_f	90-10%			2.0	ns

REFERENCE

Document Name	Document No.
Opto-Electronics Devices Pamphlet	PX10160E

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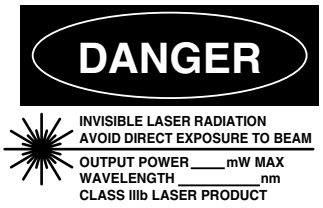

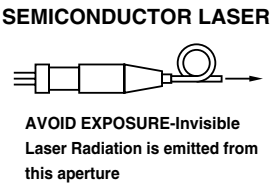

Warning Laser Beam	A laser beam is emitted from this diode during operation. The laser beam, visible or invisible, directly or indirectly, may cause injury to the eye or loss of eyesight. • Do not look directly into the laser beam. • Avoid exposure to the laser beam, any reflected or collimated beam.
Caution GaAs Products	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. • 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. 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	A glass-fiber is attached on the product. Handle with care. • When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments.