

NX8663JB-BC

Data Sheet

R08DS0063EJ0100

Rev.1.00

LASER DIODE

1 650nm InGaAsP MQW-DFB DC-PBH PULSED LASER DIODE MODULE FOR OTDR APPLICATION Jul 05, 2012

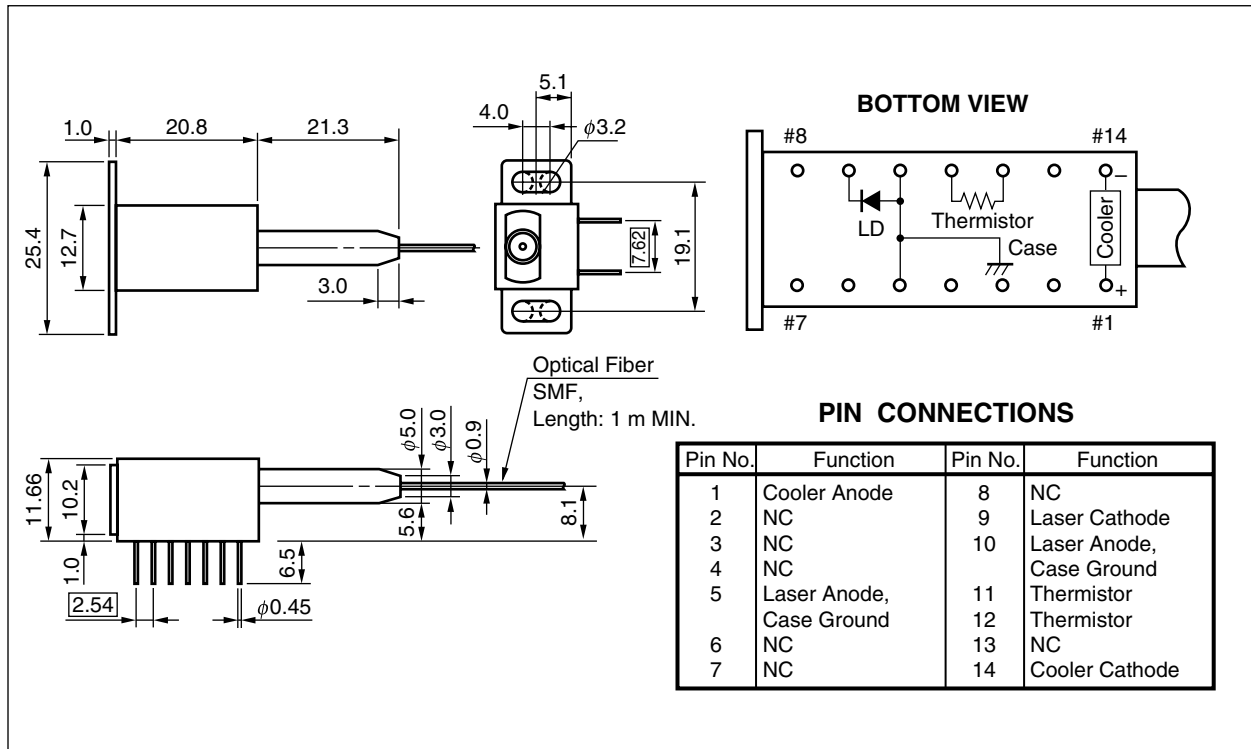
DESCRIPTION

The NX8663JB-BC is a 1 650 nm Multiple Quantum Well (MQW) structured Distributed Feed-Back (DFB) pulsed laser diode DIP module with single mode fiber and internal thermoelectric cooler. It is designed for light sources of Optical Time Domain Reflectometer (OTDR).

FEATURES

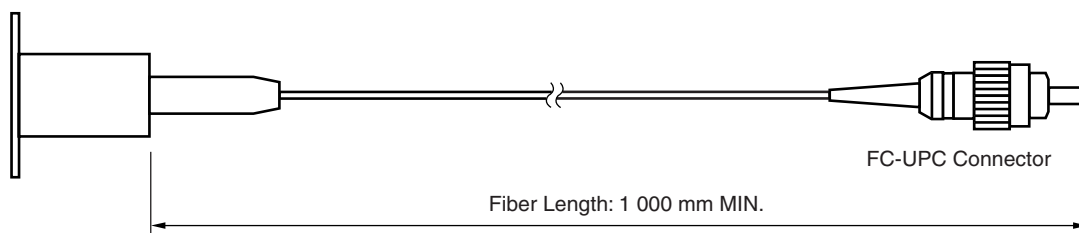
- Distributed Feed-Back (DFB) pulsed laser diode
- High output power $P_f = 80 \text{ mW TYP. @ } I_{FP} = 450 \text{ mA, PW} = 10 \mu\text{s, Duty} = 1\%$
- Wavelength $\lambda_p = 1 \text{ 650 nm TYP.}$
- Internal thermoelectric cooler, thermistor
- Hermetically sealed 14-pin Dual-In-Line Package
- Single mode fiber pigtail

PACKAGE DIMENSIONS (UNIT: mm)



OPTICAL FIBER CHARACTERISTICS

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
Flammability	UL1581 VW-1	



ORDERING INFORMATION

Part Number	Available Connector
NX8663JB-BC-AZ	With FC-UPC Connector

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Pulsed Forward Current ^{*1}	I_{FP}	0.6	A
Reverse Voltage	V_R	2.0	V
Cooler Current	I_C	1.0	A
Cooler Voltage	V_C	2.0	V
Operating Case Temperature	T_C	-20 to +65	°C
Storage Temperature	T_{stg}	-40 to +85	°C
Lead Soldering Temperature	T_{slid}	260 (10 sec.)	°C

Note: ^{*1} Pulse conditions: Pulse width (PW) = 10 μ s, Duty = 1%

ELECTRO-OPTICAL CHARACTERISTICS

($T_{LD} = 25^\circ\text{C}$, $T_C = -20$ to $+65^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward Voltage	V_F	CW, $I_F = 30$ mA			4.0	V
Threshold Current	I_{th}	CW		20	60	mA
Optical Output Power from Fiber	P_f	$I_{FP} = 450$ mA, PW = 10 μ s, Duty = 1%	50	80		mW
Peak Emission Wavelength	λ_p	$I_{FP} = 450$ mA, PW = 10 μ s, Duty = 1%	1 645	1 650	1 655	nm

ELECTRO-OPTICAL CHARACTERISTICS

(Applicable to Thermistor and TEC: $T_{LD} = 25^\circ\text{C}$, $T_C = -20$ to $+65^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Thermistor Resistance	R	$T_{LD} = 25^\circ\text{C}$	9.5	10.0	10.5	k Ω
B Constant	B		3 350	3 450	3 550	K
Cooler Current	I_C	$\Delta T^{*1} = 40^\circ\text{C}$			0.8	A
Cooler Voltage	V_C	$\Delta T^{*1} = 40^\circ\text{C}$			1.5	V

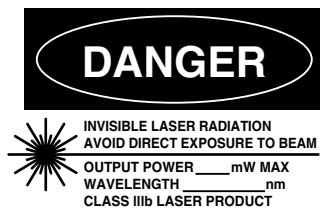
Note: ^{*1} $\Delta T = |T_C - T_{LD}|$

REFERENCE

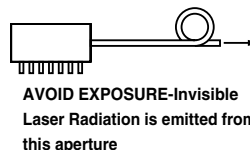
Document Name	Document No.
Opto-Electronics Devices Pamphlet* ¹	PX10160E

Note: *¹ Published by the former NEC Electronics Corporation.

SAFETY INFORMATION ON THIS PRODUCT



SEMICONDUCTOR LASER



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"> 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. 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	NX8663JB-BC Data Sheet
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Rev.	Date	Description	
		Page	Summary
1.00	Jul 05, 2012	–	First edition issued

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