



**NEC's 1310 nm InGaAsP MQW FP  
PULSED LASER DIODE  
IN COAXIAL PACKAGE  
FOR OTDR APPLICATION (25 mW MIN)**

**NX7329BB-AA**

**FEATURES**

- **HIGH OUTPUT POWER:**  
P<sub>f</sub> = 50 mW at I<sub>FP</sub> = 400 mA,  
Pulse Condition: Pulse Width (PW) = 10 μs, Duty = 1%
- **LONG WAVELENGTH**  
λ<sub>c</sub> = 1310 nm

**DESCRIPTION**

NEC's NX7329BB-AA is a 1310 nm Multiple Quantum Well (MQW) structured laser diode coaxial module with single mode fiber. This module is specified to operate under pulsed condition and is designed for a light source of Optical Time Domain Reflectometer (OTDR).

**ELECTRO-OPTICAL CHARACTERISTICS (T<sub>c</sub> = 25°C)**

PART NUMBER			NX7329BB-AA		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
V <sub>FP</sub>	Forward Voltage, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1%	V		2.5	4.0
I <sub>TH</sub>	Threshold Current	mA		20	30
P <sub>f</sub>	Optical Output Power from Fiber, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1%	mW	25	50	
λ <sub>c</sub>	Center Wavelength, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1% RMS (-20 dB)	nm	1290	1310	1330
σ	Spectral Width, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1% RMS (-20 dB)	nm		4.5	10
t <sub>r</sub>	Rise Time, 10 to 90%	ns			1.0
t <sub>f</sub>	Fall Time, 90 to 10%	ns			1.0

**ELECTRO-OPTICAL CHARACTERISTICS (T<sub>c</sub> = 0 to +60°C)**

PART NUMBER			NX7329BB-AA		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
I <sub>TH</sub>	Threshold Current,	mA			50
P <sub>f</sub>	Optical Output Power from Fiber I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1%	mW	15		
λ <sub>c</sub>	Center Wavelength, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1% RMS (-20 dB)	nm	1280		1342.5
Δλ/ΔT	Temperature Dependence of Center Wavelength	nm/°C		0.35	
σ	Spectral Width, I <sub>FP</sub> = 400 mA, PW = 10 μs, Duty = 1% RMS (-20 dB)	nm			10

**ABSOLUTE MAXIMUM RATINGS<sup>1</sup>**

(T<sub>C</sub> = 25°C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
IFP	Pulsed Forward Current <sup>2</sup>	mA	600
VR	Reverse Voltage	V	2.0
T <sub>C</sub>	Operating Case Temperature	°C	-20 to +60
T <sub>STG</sub>	Storage Temperature	°C	-40 to +85
T <sub>SLD</sub>	Lead Soldering Temperature (10 s)	°C	260
RH	Relative Humidity (noncondensing)	%	85

Note:

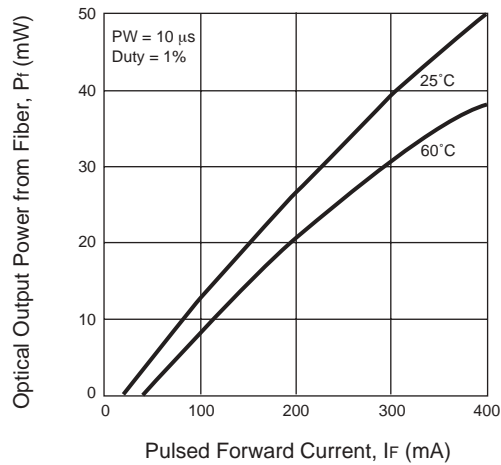
1. Operation in excess of any one of these parameters may result in permanent damage.
2. Pulse Condition: Pulse Width (PW) = 10 μs, Duty = 1%.

**ORDERING INFORMATION**

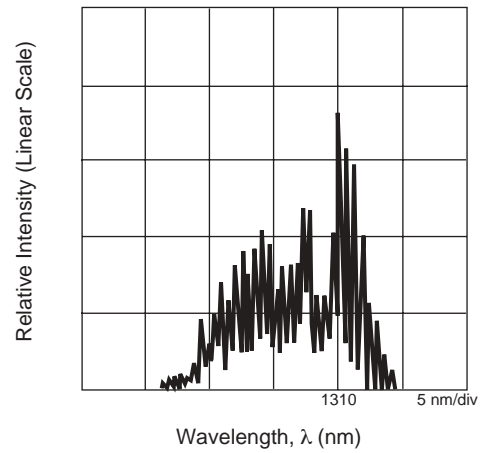
Part Number	Flange Type
NX7329BB-AA	flat mount flange

**TYPICAL PERFORMANCE CURVES**

**OPTICAL OUTPUT POWER FROM FIBER vs. LD PULSE FORWARD CURRENT**

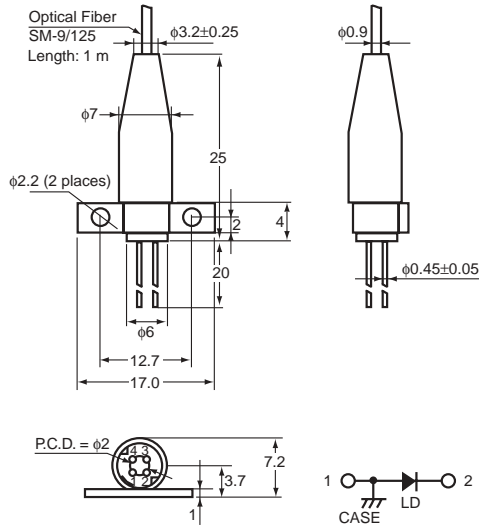


**SPECTRUM**



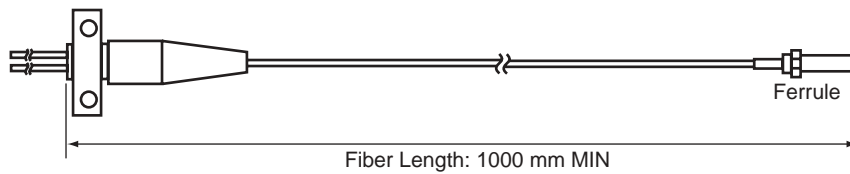
Remark: The graphs indicate nominal characteristics.

**OUTLINE DIMENSIONS** (Units in mm)



**OPTICAL FIBER CHARACTERISTICS**

PARAMETER	UNIT	SPECIFICATION
Mode Field Diameter	μm	9.3±0.5
Cladding Diameter	μm	125±2
Maximum Cladding Noncircularity	%	2
Maximum Core/Cladding Concentricity	%	1.6
Outer Diameter	mm	0.9±0.1
Cut-off Wavelength	nm	1140 to 1280
Minimum Fiber Bending Radius	mm	30
Fiber Length	mm	1000 MIN



Life Support Applications

These NEC products are not intended for use in life support devices, appliances, or systems where the malfunction of these products can reasonably be expected to result in personal injury. The customers of CEL using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CEL for all damages resulting from such improper use or sale.

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