

**1 310 nm FOR 156 Mb/s, 622 Mb/s, 1.25 Gb/s,
InGaAsP MQW-FP LASER DIODE****DESCRIPTION**

The NX5322 Series is a 1 310 nm Multiple Quantum Well (MQW) structured Fabry-Perot (FP) laser diode with InGaAs monitor PIN-PD. These devices are designed for application up to 1.25 Gb/s.

APPLICATIONS

- STM-1 (L-1.1), STM-4 (S-4.1), ITU-T recommendations
- FTTH (Fiber To The Home) system

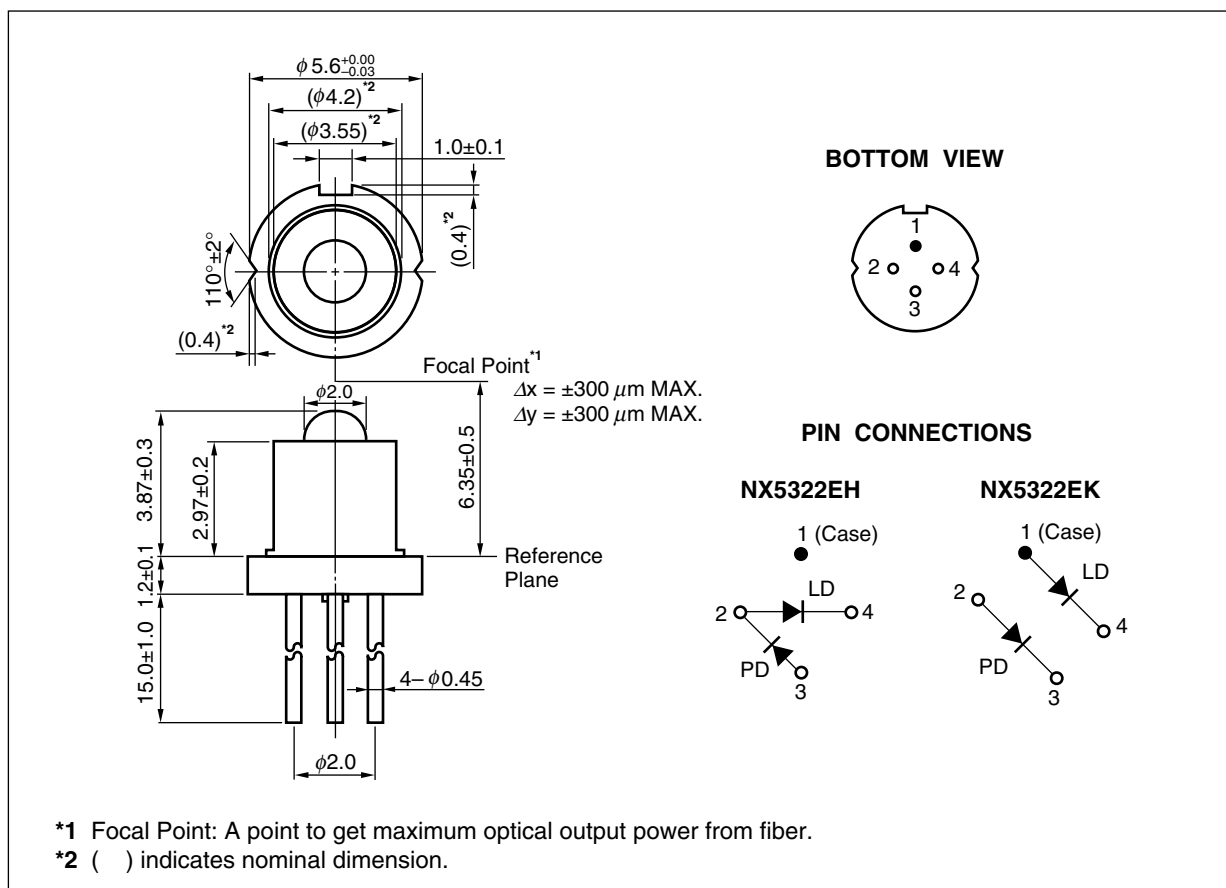
FEATURES

- | | |
|------------------------------------|---|
| • Optical output power | $P_o = 5.0 \text{ mW}$ |
| • Low threshold current | $I_{th} = 7 \text{ mA}$ |
| • Differential Efficiency | $\eta_d = 0.45 \text{ W/A}$ |
| • Wide operating temperature range | $T_c = -40 \text{ to } +85^\circ\text{C}$ |
| • InGaAs monitor PIN-PD | |
| • CAN package | $\phi 5.6 \text{ mm}$ |
| • Focal point | 6.35 mm |

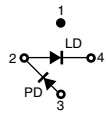
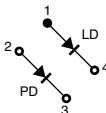


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PACKAGE DIMENSIONS (UNIT: mm)



ORDERING INFORMATION

Part Number	Package	Pin Connections
NX5322EH	4-pin CAN with ball lens cap	
NX5322EK		

- Remarks**
- 1. The color of ball lens cap might be observed differently.
 - 2. The hermetic test will be performed as AQL 1.0%.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Optical Output Power	P_o	10	mW
Forward Current of LD	I_F	150	mA
Reverse Voltage of LD	V_R	2.0	V
Forward Current of PD	I_F	10	mA
Reverse Voltage of PD	V_R	15	V
Operating Case Temperature	T_C	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
Lead Soldering Temperature	T_{sld}	350 (3 sec.)	°C
Relative Humidity (noncondensing)	RH	85	%

<R>

ELECTRO-OPTICAL CHARACTERISTICS ($T_c = 25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating Voltage	V_{op}	$P_o = 5.0 \text{ mW}$		1.1	1.5	V
Threshold Current	I_{th}		3	7	15	mA
Differential Efficiency	η_d		0.35	0.45		W/A
Center Wavelength	λ_C	$P_o = 5.0 \text{ mW}$, RMS (-20 dB)	1 290	1 310	1 330	nm
Spectral Width	σ	$P_o = 5.0 \text{ mW}$, RMS (-20 dB)		1.0	2.0	nm
Rise Time	t_r	10-90%		0.15	0.3	ns
Fall Time	t_f	90-10%		0.15	0.3	ns
Monitor Current	I_m	$V_R = 1.5 \text{ V}$, $P_o = 5.0 \text{ mW}$	100	300	900	μA
Monitor Dark Current	I_D	$V_R = 10 \text{ V}$			10	nA
Monitor PD Terminal Capacitance	C_t	$V_R = 10 \text{ V}$, $f = 1 \text{ MHz}$		5	20	pF
Focal Distance	D_f	$P_o = 5.0 \text{ mW}$	5.85	6.35	6.85	mm

REFERENCE

Document Name	Document No.
Opto-Electronics Devices Pamphlet	PX10160E

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M8E 02.11-1

SAFETY INFORMATION ON THIS PRODUCT

DANGER

INVISIBLE LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM

OUTPUT POWER _____mW MAX

WAVELENGTH _____nm

CLASS IIIB LASER PRODUCT

SEMICONDUCTOR LASER

→

AVOID EXPOSURE-Invisible
Laser Radiation is emitted from
this aperture

<div>Warning</div>	<div>Laser Beam</div> <div>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.<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.</div>
<div>Caution</div>	<div>GaAs Products</div> <div><div>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.</div><div><div><div>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.</div><div><div>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.</div><div>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.</div></div></div><div><div>Do not burn, destroy, cut, crush, or chemically dissolve the product.</div><div>Do not lick the product or in any way allow it to enter the mouth.</div></div></div></div>